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JOURNAL
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The Rorschach Test*

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In an attempt to cover as much material as possible in a short time, I have based this discussion on a series of questions which, were I in your place, I would feel I would want to have answered:

1. Who was Rorschach and what is this personality test that bears his name?
2. What kind of information about an individual does it give us? Personality is a wide term.
3. How is it administered and who can use and evaluate it?
4. In what colleges has it been used and with what results?
5. How will knowing its results, namely, knowing something about a student's personality, benefit the administrator in the medical school?

First, then, who was Rorschach? Hermann Rorschach was a Swiss psychiatrist who died in 1922, having experimented with what he described as a "psychodiagnostic procedure" for ten years. Just before his death he published a small unpretentious volume describing his work.[1] He was quite unknown in this country until 1928, his other publications being few. One, however, is an interesting clinical paper on pinèalomas.[2]

Rorschach's psychodiagnostic procedure developed from a deceptively simple discovery; namely, that if he showed people a series of inkblot pictures, like the ten which he had devised after many years of experimenting, they would all see in these meaningless blotches a multitude of diverse objects. The blots or parts of the blots would "look like" things to them. His learned academic friends, the students he taught, the janitors in the building, the patients in the state hospital—they all had meaningful experiences when looking at these calculatedly meaningless blotches. Moreover, Rorschach explained, this meaning, mental organization, or sense which was given by the individual to the nonsense was never the result of chance, but was directly related to the individual's ways of thinking or pattern of thought, his ways of acting or pattern of behavior; in short, to his personality.

The Rorschach test, therefore, consists in the person tested describing to the

* Read at the Fifty-fourth Annual Meeting of the Association of American Medical Colleges, held in Cleveland, Ohio, October 25-27, 1943.

examiner what he sees in the blots. The examiner writing down these responses subjects them to a detailed and systematic scrutiny or analysis which reveals their significance in terms of the psychological life of the individual.

Since I cannot attempt in this short time to explain to you the principles underlying this analysis which constitutes Rorschach's method, your immediate reaction will probably be one of surprise and incredulity. It will seem ridiculous that anything as simple as what one sees in inkblot pictures can allow fundamental deductions about personality to be made. I might remind you, however, that frequently very simple physical procedures allow far reaching conclusions to be drawn in medicine. It is hard, for example, for the uninitiated to realize why scratching the sole of the foot with the resultant movement of the big toe should allow the neurologist to say conclusively that there is a lesion in the pyramidal tract!

So much for a brief description, then, of the test procedure. Next, what kind of information does it give when the analysis has been made? First, there is no single numerical score. There is nothing in this test to correspond to the I. Q., or intelligence quotient, in a standardized intelligence test. We estimate, rather, the relative strength of a variety of personality ingredients which include the individual's self control, the rapport or positive emotional relationship which he has achieved with his fellow men, his inner poise or stability, his anxiety, the strength of his more primitive drives and emotions, and the integration or lack of integration of the personality as a whole. One way to describe the type of information we get from this test is to liken it to a mental x-ray picture, in that the psychological skeleton is laid bare and concealed weaknesses or broken psychological bones are demonstrated which may be hidden by superficial adjustment. I prefer a somewhat more dynamic analogy, however, as, for example, that we look at the dials of a power house which indicate the steam pressure of an individual. On such dials of psychological pressures are recorded the relative strength of drives, needs, instincts, impulses,—call them what you will,—and also the resistance of the various controls of self discipline which keep these energies in check. In some physical and psychological systems, the sum total of these controlling mechanisms and energies will result in smooth running functions. In others, however, the pressure may burst through the controls and cause an explosion. Or, again, the pressure or drive may be so low that nothing constructive is done.

The third question which I think you might want answered is: How is the test administered and are trained experts needed for its use? It is now possible to speak of the Rorschach test in three distinct forms. I have epitomized these in table 1. The test in its original form, or Rorschach's individual method, requires a trained expert both to give and to evaluate it with at least from two to three hours spent on each record. The result, however, will be a very detailed analysis of the personality. In the so-called group method which we developed in 1940,[3,4,5] Rorschach's inkblot pictures are projected on the screen as slides and as many as a hundred individuals at a time can write their responses to them. This cuts the time of administration to about one hour, but the time

required for evaluating the long records remains the same and a trained Rorschach worker is still needed. A detailed personality analysis is available, though, perhaps, not such fine differentiations are possible as in the individually administered test.

In the multiple choice test which is a new procedure based on Rorschach's experiment,[5,6] it is possible to examine a hundred students in less than half an hour, and to score the records and to screen out those showing the marked disturbances in an hour or two. Moreover, these poor records may be detected by persons without extensive Rorschach training. It is not that the test itself has been oversimplified as much as the fact that the information originally obtainable only by the experts has been available to others through the use of a mechanical scoring key. The results originally expressed in Rorschach's special terminology are now obtainable in a ten digit score comparable to the colloidal gold curve which anyone can read.

TABLE 1.—SUMMARY OF RORSCHACH PROCEDURES

Procedure	Time for Administration per 100 students	Time for evaluation and reporting on records of 100 students	Training required for administering test.	Training required for evaluating test	Results which may be expected
Rorschach's Individual Method	100 hours	150 hours	Fully trained Rorschach worker	Fully trained Rorschach worker	Detailed analysis of personality
Rorschach Group-Method	1 hour	150 hours	Trained Rorschach worker	Fully trained Rorschach worker	Detailed analysis of personality
Multiple Choice Test	20 minutes	2 hours	No Rorschach training required	No Rorschach training required	A screening method showing seriously disturbed individuals and "questionable" cases

Each of these three methods has its advantages. An elaborate personality description is unquestionably helpful in some cases. The advantages gained from it are offset, however, by the need for a specially trained worker, and by the time that must be devoted to each individual student and each individual student's record.

Although still in its initial stages, the rapid screening device which is contained in the multiple choice test seems to be an indication of who is disturbed or maladjusted although in and of itself it makes no pretense to describe the why or the characteristics of the disturbance.

The next question that I think you will want answered is: Where at the present time in colleges in general or medical schools in particular is this test in use? It is a conservative estimate, I think, to say that in at least one hundred educational institutions the Rorschach test in some form or other is being used. I can be quite specific, however, in regard to 37 colleges and universities be-

cause in the last year I have sent materials (that is, the standardized slides and the multiple choice test blanks) to them. In some of these institutions the test is being used for research in personality, a prominent example being the Brush Foundation in Cleveland under the able direction of Dr. Marguerite Hertz. In others, it is used as a preliminary screening device. I do not know how far the investigations have gone or whether or not they have proved successful, but presumably within a year or two such information will be available.

There are, however, several published reports of the systematic use of the Rorschach test with college students.[7] Dr. Ruth Munroe, in Sarah Lawrence College, has published several accounts of her use of the test. For four or five years she has made available to the faculty detailed analyses of all freshmen as their personality is revealed in the Rorschach record.

TABLE 2.—RORSCHACH'S INDIVIDUAL PROCEDURE: Sarah Lawrence Students (Munroe).

	A	B	C	D
Personality evaluation	23	23	15	21
Saw a psychiatrist	0	0	1	6
Academic failure	1	—	6	6

Her classifications of A, B, C and D refer to various degrees of personality adjustment,—A being good; B average; C questionable; D showing marked difficulties. The class is divided in this way at the beginning of the year and at the end of the year a check is made on academic failures and on those persons who have been advised to see a psychiatrist. You will notice that all those to be referred to a psychiatrist come from her groups which show either marked disturbance or a questionable disturbance. In the same way all but one of the academic failures are drawn from the C and D groups, but it should also be noted, in passing, that not all those in her D group saw a psychiatrist or failed.

An investigation about which I can give you the best information is a planned four year study at McGill University Medical School. In 1941, I examined 108 entering medical students by the group method, made a detailed report on all of them, and also classified them according to various degrees of personality adjustment as seen in the Rorschach record. These classifications varied from excellent to very poor personalities. The results, which are epitomized in table 3, are correlations which could be made at the end of the first year. You will notice that in the poor and very poor group a very high percentage of individuals did bad work, not all of them were dropped, but they were reported as having been in some kind of academic hot water. I might mention, however, that the one student, who constitutes the 7 per cent, not only did not do badly but did exceedingly well, winning a prize in histology. I might also point out that within the excellent, good and average personality groups there is no significant difference in the results; that is, the 14 per cent who did badly are drawn about equally from the excellent, good and average personalities. The significant fact is that gross disturbances as seen in the Rorschach test show poor grades in 93 per cent of their total.

In commenting on the correlation which was achieved at the end of the first year, Dr. McIntosh, secretary to the faculty of medicine, reported: "There is a definite increase in the proportion of personality defects as successive groups of examination results are considered from the top downward. Based upon these observations I think the Rorschach test shows itself to be a better measure of students' likelihood to succeed than any single result of an academic examination." And again, "I am inclined to think that further experience will confirm these preliminary observations and that the Rorschach will be found a far better criterion of probable success than a personal interview."[8]

TABLE 3.—GROUP METHOD: McGill Medical Students

Personality rating	Number	Work good Work satisfactory	Poor work Several failures Dropped
Excellent Above average Average	80	86% (69)	14% (11)
Just below average	14	86% (12)	14% (2)
Poor and very poor	14	7% (1)	93% (13)

QUALITATIVE DESCRIPTIONS

"Basic potentialities good, but at present disturbed and anxious. If this continues . . . likely to produce detrimental effect on studies. If they can work out of their difficulties they will probably make the grade."

Cu. Failed all subjects. "Worried and could not attend." Referred for psychiatric examination: anxiety state diagnosed.

Ca. Age 40. Has wife and family and serious financial worries. "Carried outside employment. Extensive lung shadows found over which he worried a great deal."

During the two years that have now elapsed since the taking of records on this initial group, several cases have been referred to a psychiatrist. The psychiatrist had access to the detailed personality descriptions on each student and concerning this Dr. Ross has written me that "the records were of use not so much in a diagnostic way as a guide to therapy. The students who profited most by psychotherapy were those who had basically good Rorschach records in spite of neurotic symptoms."[9]

In a few cases rather specific predictions, based on the Rorschach records, were borne out subsequently. For example, the cases of Cu. and Ca., which have been briefly summarized in table 3 show that anxiety in the Rorschach record may be a very real factor in undermining the student's ability to work. Our prediction in regard to Cu. and Ca. had been that while their basic potentialities were good, they were so disturbed and anxious at the time of taking the examination that this was likely to have a detrimental effect on their studies. Cu., as you will see, failed in all subjects and has a diagnosis of an anxiety state. Ca. was also felt by the authorities to have failed because of concern over financial and health matters.

There is one other case in this connection that might be interesting concerning a Mr. Y., aged 43. The Rorschach report read: "For his age this man is not stable or adjusted. Although he has considerable driving power he nonetheless shows an immature personality structure. He has not yet successfully integrated his drive into a constructive scheme of work. Emotionally, he is still

explosive. For general purposes, he has adequate self-control, but this control is achieved at the cost of a considerable strain." We rated him a C— or "poor" risk.

On receipt of this report, Dr. McIntosh replied: "The report includes some surprises as, for example, Mr. Y who is an older man with a successful law career behind him and a personality of very considerable energy." However, a year later Dr. McIntosh reported: "Mr. Y. did not write any of his examinations as he felt he was not prepared. He was required to retire. He was a curious individual with a great deal of drive and I think your analysis on him hit him off extremely well."[9]

Despite these cases, where the Rorschach record probably revealed important and pertinent information, I did not feel that the detailed analysis of all 108 students was worth the time that was put into it. Consequently, our group records, which are taken on the entering students in 1942, were not evaluated at that time, but were kept so that in the event of difficulty the record on any particular student could be evaluated. This, I think, is by far the better procedure. The status of the investigation at the beginning of the third year is uncertain owing to the lack of Rorschach workers and I understand the program may be changed so as to incorporate the multiple choice test rather than the lengthier procedures.

TABLE 4.—MULTIPLE CHOICE TEST: University of Illinois Medical School Students.

	Number	Number whose records showed questionable adjustment	Percentage
Freshmen	168	49	29%
Seniors	143	6	4%

In table 4 the results of an investigation on both freshmen and seniors by the multiple choice method are summarized. This test has recently been given to these two groups at the University of Illinois and while, of course, no follow-up studies have been made as yet, I think the difference between the groups is significant and interesting and I am much indebted to Dean Allen and Dr. Warren McCulloch[10] for allowing me to make this information available at this time. You will notice that the freshmen group showed 29 per cent of its members to have some kind of psychological maladjustment; whereas the group of seniors, from whose ranks psychiatric casualties have now been weeded out, show a percentage of only 4 per cent with maladjusted records. Of these six seniors, three are known to us as psychiatric problems. I must repeat that we do not as yet have enough information on this test, this new short screening method, to be sure what it does or does not do. However, this difference between the freshmen and senior groups, between a group not yet tried in the medical fire and a group that has come through three successful years would look as if we were on the right line.

The final question I think you will want answered is: How does it help an administrator to know these facts about a student's personality? The first

and most obvious advantage is, I think, that it is one means of spotting early a personality that is seriously disturbed. While a fairly high percentage of any given group may show mediocre or questionable records, the acutely disturbed individual would stand out sufficiently clearly so that his progress can be watched.

In the second place, information concerning personality will be useful when academic failure cannot be accounted for readily. Below I give three case histories (incidentally the first one was not a medical student) which seemed to show that one and the same external fact, namely, failure on examination, can result from three very widely different reasons.

CASES ILLUSTRATING HOW A RORSCHACH ANALYSIS MAY DEMONSTRATE THAT ACADEMIC FAILURE MAY BE DUE TO VERY DIFFERENT REASONS.

Students referred because of failure in several subjects

STUDENT A—Rorschach Report

"The outstanding feature in this individual's record is his lack of ability to achieve any abstract or logical thinking. His type of mind is perfectly at home in any routine detailed task no matter how much painstaking and laborious effort he must put into it.

His difficulties, however, would lie in the fact that he would frequently fail to see the wood for the trees. All that he can handle by patient and systematic following of instructions, he would do well, but his complete lack of originality and the striking effect in the organizing power of his mind, his failure to relate items and to move freely in the realm of abstract thought will almost certainly result in difficulties for him when such thinking is required in order to master the subject.

While his personality structure is basically stable, there is indication of some superficial anxiety, perhaps introduced through his repeated failures in realizing that he may not be able to make the grade.

It might be suggested that an intelligence test be given to him for the chances are that his difficulty is a purely intellectual one."

STUDENT B—Rorschach Report

"This is a very brilliant individual with a very wide range of psychic reactivity and many interests. The personality structure at the present time, however, demonstrates an acute inner conflict and shows that the major part of his energies are occupied with it. His extremely facile manner of contacting his environment will probably result in frequent temptations to go out and have a good time or to interest himself in matters other than his study in an attempt to get away from the problems that are disturbing him.

It is suggested that he be made to face up to the fact that his energies are dissipated, perhaps seek some professional advice concerning the conflict that is obviously disturbing him and then to redirect his excellent abilities towards his study."

STUDENT C—Rorschach Report

"It would seem clear that the academic failures in the case of Mr. C. may be directly related to the type of personality disturbance which cannot be considered as incidental or even related to some specific event. *He shows such profound emotional difficulties, such a marked retreat or withdrawal into himself that it is very unlikely that he can carry on adequately.* It would seem that such an individual should consult a psychiatrist. Given the present personality difficulties it would seem as if repeating his examinations would be useless. His intellectual efficiency is so clearly reduced to a minimum by the profound personality disturbance that he shows."

A third reason, which is more in the nature of research at the present time, is not so much concerned with understanding failure as arriving at the best type or types of personalities to be admitted to medical school or encouraged to specialize in certain branches.

I should like to end by emphasizing that I think it should be realized very clearly that even knowing all there is to know about an individual's personality, either by the Rorschach test or other methods, will not necessarily allow one to predict what that individual's academic achievement will be. The knowledge of personality is just one added piece of information which must take its place along with other items, such as the individual's school record, his intelligence quotient, his special aptitudes, his physical health, his background, and so on. Students with acute personality difficulties at the time the test is taken may, nonetheless, achieve a brilliant scholastic record. Similarly there will be failures among per-

sons with stable, well adjusted personalities. Acute difficulties from the environment may upset even an individual whose basic personality is good.

By and large, however, it can be said that when the Rorschach record shows that psychological energies are wrongly distributed or are drained off into undue anxiety, this wrong distribution will be reflected in less good academic work than the individual would be capable of were he not disturbed at that time.

I am a firm believer in the test, but I do not look on it as a magic divining rod or an automatic solution to all problems, and while I would unhesitatingly back it as, perhaps, the best single test for giving the maximum information about any individual, I do not offer it to you with a gaudy label of some patent medicine attached to it as "Purge Your School Problems and Get Rid of That Administrative Headache."

REFERENCES

1. Rorschach, Hermann: *Psychodiagnostik*. Ed. 1. Bern: Ernest Bircher, 1921, p. 174. Ed. 4. Bern: Huber, 1941, p. 277.
2. Rorschach, Hermann: Zur Pathologie und Operabilität der Tumoren der Zirbeldrüse. *Beitr. z. klin. Chir.* Tübing. 83: 451-474, 1913.
3. Harrower-Erickson, M. R. and Steiner, M. E.: Modification of the Rorschach method for use as a group test. *J. Genetic Psychol.*, 62: 119-133, 1943. (Also in *Rorschach Research Exchange*, v. 5, No. 3, 130-144 [July] 1941.)
4. Harrower-Erickson, M. R.: Directions for the administration of the Rorschach group test. *J. Genetic Psychol.*, 62: 105-117, 1943. (Also in *Rorschach Research Exchange*, 5: No. 3, 145-153 [July] 1941.)
5. Harrower-Erickson, M. R. and Steiner, M. E.: Large scale Rorschach Techniques. (A manual for the group Rorschach and multiple choice test.) Springfield, Ill.: C. C. Thomas. 1944.
6. Harrower-Erickson, M. R.: A multiple choice test for screening purposes. (For use with the Rorschach cards or slides.) *Psychosomatic Medicine*, 4: No. 4, 331-341 (Oct.), 1943.
7. Munroe, Ruth: An experiment in large scale testing by a modification of the Rorschach method. *J. Psychol.*, 13: 229-263, 1942.
8. Personal communication from Dr. John F. McIntosh.
9. Personal communication from Dr. Donald Ross.
10. Personal communication from Dr. Warren McCulloch.

DISCUSSION

DR. CHAUNCEY D. LEAKE (University of Texas Medical School): Two questions, please. In the first place, is there any information available as to the consistence of the character of the test as repeated in the same individual over a period of time?

The second question,—has any correlation been made between the results of the test and such objective findings as those of Dr. T. Wingate Todd, with respect to x-ray studies of the stomach of medical students, showing a greater proportion of anxious states among freshmen than among seniors? Those results appear to be very close to those reported in the Rorschach tests for the University of Illinois.

DR. R. B. ALLEN (University of Illinois College of Medicine): We will be interested in following this group and making a comparison with the interview reports which various members of the committee on admissions made on these particular individuals. I think the approach here with the Rorschach test is a desirable one from the standpoint of making available to us another tool with which we can become a little more specific about the general question of personality, concerning which we have talked a great deal in somewhat loose terms in the past.

DR. WILLIAM WALTER GREULICH (Western Reserve University): In our laboratory, Dr. Hertz has repeated the Rorschach tests on individual adolescent children over a

period of years. In those records, quite distinct from the age changes that Dr. Harrower spoke of, there are patterns that are characteristic of individual children. Many of those patterns are very striking, and the age changes, that probably represent normal maturational changes, are superimposed upon them.

DR. M. R. HARROWER-ERICKSON (Madison, Wis.): I have what I call a Hall of Fame. It is very easy to get faculty members to take the test if they think their records will be lined up in there.

THE PRESIDENT: How many members have you?

DR. HARROWER-ERICKSON: I suppose I have about 100 now. I can make it sound very attractive.

About your question, if the test is given with a very short interval of time—and we have repeated it with 200 individuals in which the interval was not more than three days—then there is no significant change in what you get. There are certain changes which are quite consistent, which are the result of repetition, that I can not go into because they are too technical. But if you repeat the test after six months psychotherapy or after a successful analysis, or after the successful removal of a brain tumor, when the individual has recuperated, you will get dramatic and drastic changes in personality reflected in the Rorschach, which are confirmed by opinions and observations. I am sure it is a sensitive enough tool to pick up the changes when the changes are there. Except for a few rather technical shifts or distributions of some of the scores, short intervals don't produce changes.

DR. LEAKE: How about long intervals in the ordinary person?

DR. HARROWER-ERICKSON: You would expect changes, and you get them. There are characteristics that belong to the 14 year old and the 30 year old and the 70 year old which, quite regardless of the person, show up as a characteristic of that age. That is very definite. About correlating with x-ray studies,—I do not know of any that have been made. It would be interesting though.

Library Participation in the Teaching of Pharmacology

LOUISE WALKER and CARL A. DRAGSTEDT*
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Chicago, Illinois

There are many variations in the pattern by which pharmacology may be taught in the medical school and there is probably very little uniformity in the employment of lecture and recitation systems, student and demonstration experiments, etc. We are not concerned here with such general considerations but merely wish to present a brief description of the library's plan of cooperation which should be adaptable to any program. It is a library program of (1) exhibits in show cases and (2) collateral reading material, which is synchronized with the subject matter as it is studied in the course. The exhibits are devoted primarily to the historical aspects of the subject and are intended to be selective rather than comprehensive. They are displayed in illuminated show cases on both sides of the entrance to the library. The collateral reading material consists of critical articles, reviews, current books and journals, popular accounts, etc. This is assembled on a shelf in a "browsing room," which is a small, comfortably furnished room adjoining the entrance to the library. The books on its shelves are accessible to the students without formality.

The schedule of subject matter is adjusted to a weekly basis (e. g., 1 week,—general principles; 1 week,—general anesthetics; 1 week,—hypnotics; 1 week,—local anesthetics; etc.) and the exhibits and collateral readings are changed weekly.

The exhibits and reading material for the week during which the general anesthetics are studied are presented here to illustrate the type of material assembled:

GENERAL ANESTHESIA AND GENERAL ANESTHETICS

I. EXHIBITION IN DISPLAY CASES

Valerius Cordus
Portrait and biographical note.

Sir Humphry Davy
Portrait and biographical note.
Davy, Sir Humphry.—Researches, chemical and philosophical, chiefly concerning nitrous oxide, or dephlogisticated nitrous air, and its respiration. London, Smith, Elder and Co., 1839. (Collected works, v. 3). p. 329.

"As nitrous oxide in its extensive operation appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place."

Michael Faraday
Portrait and biographical note.
Faraday, Michael.—Effects of inhaling the vapour of sulphuric ether. J. Sci. and the Arts, 4:158-159, 1818.

*From The Archibald Church Library and the Department of Pharmacology, Northwestern University Medical School.

Henry Hill Hickman
Biographical note.
T., C. J. S.—Henry Hill Hickman, a forgotten pioneer of anesthesia, communicated from the Wellcome Historical Medical Exhibition Research. Brit. M. J. 1:843-845, 1912.
Open to p. 843, showing portrait.

Crawford Williamson Long
Portrait and biographical note.
Taylor, Frances Long.—Crawford W. Long and the discovery of ether anesthesia. N. Y., Hoeber, 1928. p. 98.
James Venable (from Dr. Long)

March 30th, 1842, Ether and excising tumor.	$2.00
May 13th, Sulphuric ether,	.25
June 6th, Excising tumor,	2.00

Young, Hugh H.—Long, the discoverer of anesthesia, a presentation of his original documents. Bull. Johns Hopkins Hosp. 8:174-184, 1897.

Horace Wells
Portrait and biographical note.
Smith, Truman.—An examination of the question of anaesthesia arising on the memorial of Charles Thomas Wells, presented to the United States Senate. N. Y., John A. Gray, printer, 1859.
Presentation copy from Senator Smith to Dr. N. S. Davis.
Holograph letter from Senator Smith to Dr. N. S. Davis, May 16, 1866, accompanying the above item and discussing the ether controversy.

Charles Thomas Jackson
Portrait and biographical note.
Jackson, Charles Thomas.—A manual of etherization. Boston. Published for the author by J. B. Mansfield, 1861.
Autographed presentation copy from Jackson to Dr. S. A. Bemis.
Holograph letter from Jackson to Henry Morford, November 6, 1864.

William Thomas Green Morton
Portrait and biographical note.
Morton, William James.—Memoranda relating to the discovery of surgical anesthesia, and Dr. William T. G. Morton's relation to the event. Reprinted from the Post-graduate for April, 1905.
Autographed presentation copy.
Roth, George B.—The "original Morton inhaler" for ether. Am. M. Hist. n.s. 4:390-397, 1932.
Open to p. 394 to show copy of Letter Patent No. 4848, issued November 12, 1846, to Jackson and Morton for the use of ether anesthetic in surgery.

Some early material on the ether controversy
Gay, Martin.—A statement of the claims of Charles T. Jackson, M.D. Boston. Printed by David Clapp, 1847.
Lord, Joseph L. and Lord, Henry C.—A defense of Dr. Charles T. Jackson's claims to the discovery of etherization. Boston, Office of Littell's Living Age, 1848.
Autographed presentation copy from Jackson to Dr. S. A. Bemis.
U. S. Congress, House of Representatives. Select committee to whom was referred the memorial of Dr. W. T. G. Morton. Minority report, February 28, 1849. (30th Congress, 2nd Session, Report No. 114).
Stanly, Edward, and Evans, Alexander.—Report to the House of Representatives . . . vindicating the rights of Charles T. Jackson to the discovery of the anesthetic effects of ether vapor . . . presented . . . on the 28th day of August, 1852 . . . by members of the select committee on the ether discovery. Printed by authority of the minority of the committee, (n.d.).

U. S. Congress. Senate. Committee on military affairs and the militia. Report, the Committee on military affairs and the militia, to whom was referred the petition of Dr. William T. G. Morton . . . , February 14, 1863. (37th Congress, 3d session, Report Com. No. 89).

[Smith, Truman] Anesthesia. Who is entitled to the credit of making the great discovery? Wm. T. G. Morton and his designs on the U. S. Treasury. His letters patent null and void. N. Y., Robert Larter, 1864.

John Collins Warren

Portrait and biographical note.

Rice, Nathan P.—Trials of a public benefactor. N. Y., Pudney and Russell, 1859. p. 92.

Engraving showing the first public trial of etherization at the Massachusetts General Hospital, October 16, 1846 (Morton—anesthetist, Warren—surgeon).

Warren, John C.—Etherization; with surgical remarks. Boston, William D. Ticknor and Co., 1848.

Presentation copy from author to Edward Everett.

Henry Jacob Bigelow

Biographical note.

Bigelow, Henry J.—Insensibility during surgical operations produced by inhalation. Boston M. and S. J. 35:309-317, 1846.

Dr. Bigelow was a witness of the startling experiment in the Massachusetts General Hospital and announced its success to the world in this article.

Oliver Wendell Holmes

Howe, M. A. DeWolfe.—Holmes of the breakfast table. London, N. Y., Oxford univ. press, 1939. p. 64-65.

Letter from Dr. Holmes to Dr. Morton, November 21, 1846, in which he suggests the names "anesthesia" and "anesthetic."

Robert Liston

Biographical note.

Boott, F.—Letter to the Editor. Lancet 1:8, 1847.

Dr. Boott quotes a letter from Robert Liston, dated December 21, 1846, in which Liston says, "I tried the ether inhalation today in a case of amputation of the thigh, and in another requiring evulsion of both sides of the great toe-nail, one of the most painful operations in surgery, and with the most perfect and satisfactory results."

Sir James Young Simpson

Portrait and biographical note.

Simpson, James Y.—On a new anaesthetic agent (chloroform), more efficient than sulphuric ether. Lancet 2:549-550, 1847.

Reaction of the medical profession to anesthesia

American medical association. Committee on surgery. Anaesthetic agents. Tr. A. M. A. 1:176-196, 1848.

Mitchell, Silas W.—The birth and death of pain: a poem read October 16, 1896, at the commemoration of the fiftieth anniversary of the first public demonstration of surgical anaesthesia. [N. Y., Vreeland advertising press, 1896?]

Group of pictures of surgery during the pre-anesthetic era.

II. COLLATERAL READING MATERIAL IN "BROWSING ROOM"

Fülöp-Miller, Rene.—Triumph over pain . . . translated by Eden and Cedar Paul. N. Y., The Library Guild of America, Inc. [c1928]

Keys, Thomas E.—The development of anesthesia. Anesthesiology 2:552-574, 1941; 3:11-23, 282-294, 1942.

Adriani, John.—The pharmacology of anesthetic drugs . . . 2d ed. Springfield, Illinois; Baltimore, Md., 1941.

Beecher, Henry K.—The physiology of anesthesia. London, N. Y. (etc.) Oxford univ. press, c1938.

Gwathmey, James T.—Anesthesia . . . in collaboration with Charles Baskeville. N. Y. and London, Appleton, 1914.

Lundy, John S.—Clinical anesthesia. Philadelphia and London, Saunders, 1942.

Naturally, there is a greater wealth of material for some phases of the subject than there is for others. Although none of our exhibits are as complete as we would desire, we were pleased to find how much the library could provide. Incidentally, the obvious gaps in an exhibit provide a gentle reminder to friends of the library of some of our needs. The list of exhibits and collateral readings is subject to continuous revision.

With respect to the utilization of this material by the students, our plan has been to keep it on an informal and voluntary basis and they are not held accountable for this supplementary material by quizzes, etc. The invitation to use it is made attractive by having the exhibit cases and the "browsing room" conveniently accessible and by providing the students with mimeographed programs. The medical school curriculum is so heavily burdened that the student has no time to seek out supplementary material of this sort in the usual way, and the instructor's choice is essentially that of disregarding it or of presenting it in some such labor saving fashion.

Requirements Versus Preparation for the Study of Medicine*

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Undoubtedly too much has already been said, and written, on the subject of preparation for medical study. Like the weather, the subject is one of great conversational possibilities but no one seems to do much about it. Apparently no single specific is the cure of the situation, but a little education, judicially administered, ought to help.

At this point we meet the crux of the situation and, at the same time, run into our first snag. Admittedly, education is the real goal, but the real difficulty appears when we try to decide whom and how to educate. Shall we tackle the students, or their teachers, or both? In what degree is each group to blame for the present situation, which is, to say the least, rather indefinite! It is proposed to analyze each group, not forgetting to include the teachers of medical as well as of so-called premedical subjects, and see how far we can get with suggestions for a rather widespread educational program. First of all, as those, perhaps, most vitally interested in the problem, let us look at the students.

In the course of many conversations with applicants (present and also potential) for medical school (and with many students who have not yet become applicants), it is evident that there is a widespread ignorance as to what comprises adequate preparation for the study of medicine. The student idea on the subject seems to be confused with such details as required courses, grades, semester hours, "cultural" studies, three years of preparation versus four, and all such rather completely unrelated factors. The applicants with low grades most often say they did not realize "how important grades are," while those with high grades are wont to consider them an open sesame to any medical school. Many aver that they plan to start really working when they get into medical school; while others can "see no sense in all the junk we have to learn in college —it has nothing to do with studying medicine and that is all I am interested in." If some of these ideas could be banished from the minds which are so impatient to "begin doing something worth while," it is possible that many embarrassing moments might be avoided. Instead of being obliged to undergo recriminations for a poor showing in college, it might be possible for the student to present to the Committee on Admission to Medical School a set of qualifications which would defy criticism, and, perhaps, mean the difference between rejection and acceptance.

Let us look for a few moments into the mind of some person who wishes to study medicine. He states that he wishes to do so for one of the following

* Dr. Swett died February 10, 1943. He completed this paper shortly before his death but did not submit it for publication. Dr. Davison, dean of Duke University School of Medicine, suggested that it be published. It has a message of great value to admission committees, premedical students and college faculties.

reasons: (1) to carry on the family tradition; (2) because his parents want their son to be a doctor; (3) to alleviate the ills of a suffering world; (4) because he thinks (or is sure) he will like it; (5) because he cannot think of anything else he would rather do. There are others but the above, with minor variations, about cover the field. As reasons, only one of them is even faintly concerned with an appreciation of the necessity for adequate preparation. Our aspirant, naturally, sees the thing chiefly from his own point of view. He is anxious to enter medical school—usually at the earliest possible moment—and sees no reason at all why he should not. For him the thing of prime importance is to get in, believing firmly, in most cases, that he can "get by" somehow, even do well, if he can only manage to get accepted. Unfortunately, he has been told how difficult it is to secure admission and what a large number of applicants are rejected. Perhaps, for that reason, he feels justified in bringing to bear on the authorities whatever pressure he may be able to exert, and when accepted, by that or any other means, to consider himself "lucky." Actually, there is much more to it than that. It is not easy to see anything fortunate about being professionally miscast; nor is it sensible to trust too much to a temporary good fortune that may later be bad fortune when the handicaps of preparation cannot be overcome.

How unfortunate it is that so few are aware of the simple fact that any really qualified applicant can gain admission, with exceptional ease, to practically any school he may select. He realizes that fact only after he is admitted; but how can others, equal in ability, be convinced of its truth in time to secure the proper qualifications? And what are these qualifications? Of course, everyone knows that something is involved besides good grades, superior personality, social background, nationality, religion, or even the ability to present a letter from the Governor of the Commonwealth. The important thing is the state of mind, that mind which the student has inherited from his forebears—brought to proper maturity by carefully planned and executed training. Most of this planning and execution must be done by the student himself, but the trouble seems to be that he does not think much about this until too late in his educational career.

How can he be made to think about it? By what means can he be reached and persuaded that there are no such things as "premedical" studies? The doctor actually begins to study medicine his first day in kindergarten. The length of time required for him to discover it is in inverse proportion to the excellence of his preparation—not for the study of medicine which has already been begun —but for a lifetime of professional satisfaction. This should be the first lesson to be learned, but it is often the last. Is it in any way possible to convince him that every part of experience, no matter where obtained, is of direct application in future professional work? Every subject he takes should be approached with the same avidity with which he hopes later to attack the problems of clinical medicine. Who can say that the principles of biology, chemistry, mathematics, physics and the philosophy of the great sophists and literati are any different from the principles of scientific medicine or the philosophy of the healing art?

Let us pursue the subject by examining some of the methods of selecting medical students as practiced by committees on admission in the better medical schools in this country. Each of them probably has its own little foibles but, in general, selection is based on a variety of conditions, all of which center about what we are pleased to call preparation for the study of medicine. Three general items are examined with some care: (1) past performance along scholastic lines; (2) general aptitude for and attitude toward the study and practice of medicine; and (3) the various attributes of personality. Each of these items embraces a good deal not apparent on the surface, and—at the risk of being trite—it may be well to discuss their general meaning.

The phrase "past performance along scholastic lines" means, or should mean, a lot more than simply the grades attained. Grades are not always what they purport to be; they are, at least, partly a matter of luck. They may be attained honestly or dishonestly and they may be better or worse than their possessor actually deserves. Naturally, a list of good grades looks better to a committee than a list of bad ones, but however the list looks, it does not tell the whole story. It is difficult to see how anyone can believe that a grade is the only actual measure of real ability. It may represent merely temporary fact storage and subsequent regurgitation. Perhaps, it is indicative of his clairvoyant ability to discuss the questions to be asked on the next quiz. Conceivably, in certain instances, a poor grade may even be a mark of honesty or a good one a badge denoting teacher's pet.

Along about here one can just see the hackles of the graders rising, and sense the well nigh uncontrollable desire to speak up and brand such sentiments as absurd, erroneous and completely unfair. Indeed, similar remarks in the past have been interpreted as equivalent to saying that students with poor grades are just as good as those with excellent ones. In certain instances they may be, but that, in those few exceptions, is not at all the point of the argument here.

It certainly is true that the trend of the college grades still constitutes, normally, the best single criterion for judgment as to promise of success in medical study, but in addition to grades there are other points to be considered in the case of each individual, whether his grades be good or bad. As a matter of fact, it should be pointed out that the students, who furnished the data on which grade—excellence—medical—success conclusions are based, were not chosen solely on that criterion.

We all wish it were possible to convince students, at least as early as the start of their college work, that grades can be a natural consequence of their own frame of mind and need not necessarily be something bestowed by a teacher who is looked on as Angel or Devil according to his issuance of those two initial letters. Instead of "working for a grade," could not the student as easily work for an understanding of the principles of the subject and let the grade take care of itself? Would it not be well for him to learn how to work independently, observe critically, and to analyze, rather than to store temporarily—perhaps just before the examination—the information presented? The task is by no means impossible. It merely demands an understanding of the problem and some revision

of one or more college conventions, including the one in which the serious student is looked on slightly askance. If it should become possible to impress something of the above in the student's thinking, it goes without saying that his general attitude toward the study, whether of medicine or of anything else, would be much improved.

How can the inculcation best be accomplished? Advice to students, or to anyone else, usually goes unheeded, perhaps because of inattention, indifference, or lack of confidence in the source. In the face of all this one really hesitates to embark on a task which experience has shown to be well nigh hopeless. In private conversation it has been possible, occasionally, to emphasize sufficiently the import of the point of view that at least an attempt has been made on the part of the hearer to do something about it. But when the same story has been poured forth on even a few gathered together and temporarily hobbled for the purpose, the results have been negligible. Even less effective, if such be possible, has been the written word—when penned in all seriousness.

Of course, the best thing to do in preparing to enter medical school is to arrange to be born with a very high capacity for intelligence. Proof that this has been accomplished is provided by the ease with which you learn new facts, the tenacity with which your memory holds them, and the extreme facility with which you use all information so diligently stored during twelve years or so of preliminary schooling so that you may reason and solve with lightning speed any and all problems of your years in college. Mostly, however, those so born are not the ones to whom this is directed. Their problems have reached self solution. They know what they want and how to get it—in a word, success is assured absolutely, unless, as far too often happens, pack rat proclivities have managed to produce that swelled head and the invariably accompanying supercilious attitude of the insufferable ass.

To the others, who have not been endowed at birth with high capacity for intellectuality and so may not know what is coming next, I venture a command which on its face is most simple but which so few of us have really obeyed. The imperative is one of great hidden significance, contrived in words of one syllable to make its own admonishment that much easier; in fact, it is so uninvolved, so unutterably plain and disingenuous that you may laugh when you hear it. It is of three words only, eleven letters in all, followed by an exclamation point. And here it is,—LEARN TO READ! Just that,—and prepare to be surprised at the other things that will be rendered unto you. At this point you are fortunate that I am not planning to belabor you with a few thousand words on the beautiful vistas opened up by the perusal of good literature, on the general, liberal and modern education to be derived from study of the ancients. But you are not so fortunate as though I were to drop the matter here and let you go on, from your obviously dutiful attendance on these words, to your various pleasures. Since the commands of your speakers are not looked on, usually, with any favor at all until they are explained a bit, we shall examine the matter further.

What, may you ask, do we mean by learning to read? Certainly real reading consists of something more than just looking at the words, skimming along to get the general idea, or no idea at all, of the author's story. That is the way most of us read and every four syllable word stops us completely; either we guess at it or ignore it entirely, while those of three syllables yap at our heels like an alley full of unpleasant mongrel pups. Of course, it would help amazingly if writers could be persuaded occasionally to use words which mean something instead of being merely euphonious, or even to write less by saying what they have to say and get done with it, but that is a completely Utopian wish. So, if we want to know things, it appears we must read a lot to get even a little. It is not that we cannot learn how to read, it is chiefly that we just are too easily satisfied to try. How many of us read English with a dictionary at hand? And why not, when so many of the words are as completely unknown as though they were in a so-called foreign language? Then, too, much of our reading is so carelessly done that it not only leads to the encouragement of a bad habit but also sometimes to disaster when the material is of a technical or directional nature. The difference between 1 mg. and 1 gm. of a drug, for example, is not only the 100 per cent transposition of letters in the abbreviation but a thousand fold —a slight matter signified by only two letters which could easily get written backwards in one's memory.

Completely erroneous ideas may be secured by our failure to read a statement in its entirety, or in relation to its context. Perhaps, that is why we prefer tabulated material or the Reader's Digest. It is also why we make outlines of our texts—to the complete overburdening of our memories and the complete loss of the fascinating warp of those general principles which are so important in fashioning the complete fabric. Nor should it be necessary to adopt the technique of the illiterate, mouthing each word as we read, at least not after we have learned to pronounce the words—a task which may require that they be read aloud. If you have not already learned, as, of course, you should have in school, to exercise the connections in your nervous system between the receptors, visual and auditory, which recognize a word, and the effectors which speak it, learn to do so at once. Learn not simply to mumble when you come to a tough one, throwing together a jumble of sounds roughly including most of the consonants which happen to catch your eye. Practice approaching the task from the point of view of accuracy of observation and you have solved the problem, opening up at the same time another attribute of prime importance.

Probably no one would consider it necessary for all of us to view with the photographic eye of the most fictitious wizards those disagreeable people who can tell you that three weeks ago last Tuesday, at 4:32 P.M., you were standing twelve feet from the left end on the third step of the Chapel terrace with a Lucky Strike in the left corner of your mouth and with the second vest button from the bottom cracked from north to south. There is, however, a happy medium between that sort of thing and the complete blindness with which we are continually struggling. Few people are really blind for either color or form, of the

others the blindest are those who will not see. Try drawing sketches of things you look at, try writing descriptions of them; if necessary, get out your building blocks and reconstruct them in three dimensions. Do anything which will impress on your mind the general features of objects and the general trend of ideas.

Can we not somehow avoid the casual "taking of courses" and learn to inquire of ourselves concerning their content! This point may be emphasized by retailing a recent conversation. He was an engaging young man of the type perhaps best, if unscientifically, described as rattle brained, but full of impatience to embark on the study of medicine. On inquiring concerning his preparation, he enumerated the courses he had had and those he was taking at the time, vouchsafing as an after-thought a course in psychology. Queried as to why psychology, he said someone told him that was a good thing to have. The following dialogue is almost verbatim: "Who teaches that course?" "Oh, Mr. um, er, what is his name—it has slipped my mind just now." "Well, what is the course about?" "Oh, well, we study, um, er, ah, oh, about the mind, and stuff like that." "Do you like it?" "Oh, yeah, it's all right." "What text do you use?" "Umm, I dunno." "Have you got a book?" "Yes, I've got a book." "Have you read it?" "Oh, yeah, some." Rather pathetic, is it not, and yet how many of us would show up much better if exposed to a similar questionnaire? Remarks to that young gentleman included the suggestion that he go home and read that book from cover to cover, not with the idea of learning its contents as for a quiz on the factual matter contained therein, but just to find out what it was all about; then to back off and try to see what the woods really looked like, uncomplicated by the trees which made it up. If the scheme were really followed throughout all study, how much more fun everybody would have. Can it be done?

Ideally and logically it might be expected that the teacher would seek to impart that enthusiasm for the subject which he himself has—or had. This implies that he would wish to teach the simplicity and fundamental character of his subject, for is this not the dominant thought which impelled him into the field which he now endeavors to impart to others? If not, he certainly is playing a tragedian's part in a drama. And if the details are important—many if not all are at some time or other handy—does not that teacher build a central structure of concept and fundamentals around which the details may be arranged with some element of simplicity in their order and with some central idea of their prospective significance? Does he require not a redundancy of facts but an orderly arrangement of them? Does he present a living example of that mental discipline through which he has accomplished the mastery of both the fundamental and the detail in correct alignment and perspective? Does he require the painstaking care on the part of the student to the main essentials? The answers to these rhetorical questions should be in a very positive affirmative for every teacher in any subject but there is a reasonable doubt that we are completely honest with ourselves if we do it. There are always little pet details which fall outside the regular organized pathway of what constitutes an essential. Do these clarify or do they obscure?

Details, when studied in such an adequate presentational environment, are not detached bits of knowledge but are embraced in the overall perspective. They cease to be entities and evolve as a part of a mosaic in which each part supplements the other. The art of placing parts in perspective is the result of that intangible interplay between the teacher, the receptive mind of the student, and the subject matter. No one of these phases can be disregarded, except at the expense of the others. To the teacher there is that great responsibility to create an organization of detail and to submerge detail into its proper relationship. It is only by this method that the student may be introduced to those paths which are necessary for the consummation of the mastery of the subject.

Next the question arises as to what subjects to study with all these good new resolutions in mind. Here one runs into a wide variety of opinions which differ even in the medical schools which institute the greatest clamor over the general situation. Well meant advice is not always good; and very little help is furnished by most medical school catalogues. These publications advise almost as many different schemes for the student to follow as there are schools of medicine, even though the same fundamentals are stressed. Many of them still provide long lists of requirements and recommendations, with glib mention of college "courses" and semester hours as though they, in themselves, were important. Some do include statements concerning the value of an understanding of the subject matter, but often such minor features are overlooked by the aspiring reader, possibly because of his amazement that a course in English has anything to do with learning to become a doctor.

The original purpose of requirements seems to have been to act as a specific barrier against the entrance, on the study of medicine, of those unfitted by preliminary "education" to undertake the work. In many cases, the barrier seems to have shifted insensibly and actually to stand against adequate preparation instead of against the unprepared—a barrier because preliminary study has tended to become stereotyped, even regimented, to the point of permitting much too little individual initiative. Such a result was, of course, not intended, probably not even foreseen by the medical schools.

Nor is the trend toward the reduction of "requirements" in many medical school catalogues of any great help to the student. The more general the statements, the worse is the beginner's confusion when faced with a decision of what to study. Fundamentally, a choice of studies beyond the relatively few which are actually necessary for an understanding of the medical sciences should be governed by the student's own chief interests and by the intellectual stimulus to be derived from the work. His major effort may be in any field, scientific or otherwise, and should provide an opportunity for the demonstration of any exceptional ability. He certainly would be better advised to secure a knowledge of the principles, and a thorough appreciation of the interrelations, of the basic sciences than to accumulate credits in many courses. Above all, he should teach himself to think because no teacher can do that for him—although a good one can help him learn.

A perusal of the things which have been written, mostly by teachers, for the purpose of guiding prospective medical students reveals a great variety of ideas, not all of which agree in perspective or application. The differences of opinion and the consequently varied advice, derive in large measure from the personal desires, perhaps prejudices of the writers. It is possible for the anatomist to be swayed toward advising more emphasis in premedical work in comparative morphology, for the chemist to lean toward more chemistry and for the general educators, deans, college presidents, and the like to overstress the values of so-called cultural subjects. As pointed out above, the well meaning contributions are valuable chiefly to indicate a diversity of opinion. However, everyone seems to agree on one thing which has been talked about so much that its mere mention has come to be somewhat nauseating; namely, that the student should somehow learn to think. Few, however, have come forward with any good method of getting him to do it if he does not particularly seem to want to do so. Probably no one would object to the possession also of a modicum of fundamental information nor even to some additional interesting factual details. The point is, however, that the important, the really useful thing is to know what to do with accumulated facts and how to put them to work for their possessor. Unanimity of opinion on how best to accomplish this task is almost completely lacking and for various obvious reasons. In the first place, there are far too many teachers who insist that the acquisition of knowledge —meaning facts—is the important thing. They are the chaps who insist on the memorization of every small detail, deluding themselves that such encyclopedic information may be of benefit but even if it is not the mental discipline provided by its gleaning must somehow line up the synaptic pathways of the central nervous system so that other traffic along those routes may be facilitated. Mostly this method of instruction is based on the debatable assumption that the more facts one stores away the more residuum there will be after time erases the memory of a considerable percentage. Too often the obvious points of excellence in such a plan are overshadowed by the unwillingness or the inability of the teacher to so arrange the work that correlations and useful applications are brought to the fore. General principles and ground plans which should form the students' learning pattern get buried in detail which increases so amazingly that even posthistoric excavations are of small avail.

It is not difficult to hear, at this point, the rumble of dissenters to these objections. They quite inaccurately accuse one of encouraging careless, superficial and unscientific work; of ignoring detail and accurate methods; and of placing reliance on the much overrated general impression. The latter, of course, has no place in science and no one would for a moment think of giving it encouragement. Teach care, accuracy of observation and statement, and also completeness by all means, but why place such a premium on an encyclopedic memory?

Possibly the classes are too large, possibly the teacher is unwilling to spend the time necessary to make his work really interesting, or, perhaps, he just does

not know how. The teacher who is too busy teaching his subject to have time to teach the student is the crux of the situation. Such men exist in altogether too large numbers and only the exceptional student, who is able to read between the lines and to hear what is not said, derives much benefit. Nor must it be thought that such persons (shall we continue to call them teachers?) are limited to one department, college, profession, or other category. They have learned by precept to present their subject; the precept has been bad, and they are too bound by inertia to initiate a change. They blame everything on the student, on his mental deficiencies, on his poor preparation—but who prepared him? He received his preliminary education at the hands of others of the same ilk—and so the buck gets passed backward without our making much effort to better the situation at whatever educational level we may work. And how, you ask, can we do it? The answer is, we can accomplish much by sitting down and scrutinizing what we ourselves are doing, viewing it with as completely unprejudiced an eye as possible. In so doing we should not allow ourselves to think of our "class" as one average student and plan the work for him. Nor should it be geared for the mediocre or for the superior student. Why not let the whole thing be worked out on an adjustable plan so that each student can get a perfect fit, irrespective of his mental ability? Then, if each student be treated as though he were the only one in the group, many surprises will be forthcoming. Even the people whose classes are larger have certain opportunities if a bit of winnowing is done. Can we not expose ourselves to our own critical judgment, discover what is wrong and then do something about it? Let us consider a reduction in personal bigotry and selfishness to the benefit of the student, who is not only the recipient of the so-called instruction, but who is looking for an example to follow.

Now we come to the second problem of the teacher, the letter of recommendation. That is a poor name for the document because of the optimistic connotation. Probably appraisal would be a better term than recommendation. Whatever it is called, it purports to be a complete and frank expression of opinion by a person with good judgment and with a knowledge of the applicant. By no means all of the letters received come up to these specifications for content or author. One may state that the applicant was a member three years ago of a class in this and that which was composed of 377 students; another that "he got a B in my course so he must be very good;" still another that "I am not acquainted with the applicant but his father is a mighty fine architect." Such observations are completely useless either to the Committee or to the applicant who, no matter what his failings or virtues, has the right to expect that his appraisals will not be completely non-contributory. Some well meaning but misguided persons have been known to send in good recommendations merely because they hate to be instrumental in keeping any boy out of a profession he so much wishes to enter. Equally unfortunate, from the point of view of all concerned, is the situation in which no letter at all is written because nothing good can be said about the applicant. Too often he is little known to the ap-

praiser who then is placed in the embarrassing position of writing about something he knows nothing about (there is little proof that many of us are innocent of that) or of refusing to oblige.

There should be some way in which the medical schools could enter a plea for one hundred per cent frank and honest, detailed appraisals to aid them in their desperate attempts to select students who will really be a credit to themselves and to the schools. Persons who are unfitted for the study of medicine physically, intellectually or morally should not be permitted to begin the study, and thus take the place which some qualified student might have had. The practice of writing letters of appraisal which are noncommittal, evasive or even worse, should not be considered a favor to the applicant, but rather as distinct disfavor both to him and to the school to which application is being made. At this point it must be said that many of the appraisals received are very helpful and most of them are completely honest even if they are not helpful. The fact still remains that in all fairness to the applicant more and better information is often needed. The answer to this is that somewhere on every student's campus there is pertinent information about him which would help in a judgment on his probable fitness for the study of medicine. Possibly some method could be devised to rout out this information and make it available to anyone who could demonstrate a right to it. Several colleges are making a valiant and by no means unsuccessful attempt to be of assistance in this matter. Many others might very well follow suit, using for the purpose confidential opinions of everyone on the campus, compiling data in such quantity and of such quality as might never otherwise be obtainable by the medical school admission officers.

Naturally, such data would include information on personality and on the general aptitude for and attitude toward the study of medicine. Obviously, the only place to get information on these points is from someone who knows the applicant well and who has the moral courage to tell the whole truth about him. Finally, sitting in on any committee which provides advice to the premedical student and which "recommends" him to medical schools, there should be, whenever possible, some one who is well acquainted with the standards, personnel and pedagogical methods utilized in the various medical schools. His counsel should prevent many of the tragedies which result from a misfit between student and school—a condition all too common and responsible for, at least, a part of the failures which occur each year. Many times it has been shown that a student who is totally unfitted to profit from the methods of instruction used in one school of medicine will do adequate, even superior work in a different school. His innate ability is not altered, of course, by his environment but because of more propitious, perhaps happier, surroundings he is enabled to do better work —to utilize more fully such ability as he may have.

All of this bears directly on the choice of a medical school, a subject on which no advice whatever can be given without a thorough knowledge of the schools and of the ability, psychology and propensities of the applicant. All this is part of the problem of the teacher, not only of the undergraduate, but of the medical

student as well. Many times it has been said that the medical schools do not seem to know what they want. We have even heard "you take the people we do not recommend and reject those we do;" and the medical teachers complain to the college because the student is improperly prepared. These factors, and others, are at the root of certain misunderstandings which unfortunately exist between college and medical school faculties. The chances are that both groups are right and that each is equally guilty. Probably the chief source of guilt, however, is in a lack of mutual understanding of conditions, purposes and requirements. Instead of continuing the often felt and too often expressed recriminations, there should be some way of attaining a greater harmony of relationship on a common ground, to the end that some problems of medical education may have a chance of solution. The Canadian, English and Continental schools have tried taking into the activities of their medical faculties the instruction given in the so-called premedical sciences. Some places in this country have combined all anatomy, or all chemistry, into one department. Special premedical groups are handled separately from other students in some schools and in others an attempt is made to alleviate the situation by arrangements for tutorial groups, premedical advisers, or other only partially effective measures. It has been suggested (Conant, 1939) that a further attempt be made by the tentative acceptance, to medical schools, of college freshmen with good high school records. Their admission would be contingent on continuation of good work through their college years. The members of this group would receive special guidance, control, advice and supervision from specified members of the medical faculty of their choice. Such a scheme could be expected to work, it would appear, only if there existed a close geographical—not to say cooperative—relationship between the undergraduate school and the medical school.

Indeed, as Dr. Conant has pointed out and as must be obvious to all who consider the question with any care, the crux of the whole matter may lie actually in a three way short circuit with sparks flying at all junctions between student, college faculty and medical school faculty. Each wonders what the other wants and few take the trouble to try and explain lest the explanation be misinterpreted as meddling. Even when suggestions are made, practically no one heeds them, because haven't we been doing our job of studying or teaching for years until practice has made us perfect? It has been suggested that each of us volunteer as a case study for some specialist in education. Perhaps bad pedagogy can be remedied in that manner but possibly the first step should be taken in the direction of cooperation between those who know something of the subject matter, as well as of the peculiar requirements and limitations of the general situation. It really seems absurd to call in an extraneous fourth to help student, organic chemist and biochemist—or student, biologist and anatomist, to get together. If all the needs and wishes of either trio could be pooled, all the cards laid on the table for open discussion, who can tell what the result would be? Has it ever been tried between trusted, open minded and cooperatively inclined friends —or are there none such?

The Role of the Southeastern Schools of Medicine in the National Distribution of Physicians

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The question of distribution of physicians in the United States may become a major social issue within the next decade or two. Any serious analysis of this problem must eventually take into consideration the exact role of our medical schools since they represent the source of the majority of our doctors. Under the present economic system, free choice of location is allowed to all graduates of medical schools. Because this is uncontrolled, and the eventual selection is not based on needs, there annually occurs a heterogeneous, migration factor from each of the seventy-six medical schools in the country. This is true whether the schools be privately endowed or tax supported. The present statistical study is an attempt to show "where" the living graduates of the southeastern approved and extinct medical schools have located in the course of years.

The southeast consists of the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. These states have a combined area of 510,526 square miles; they are occupied by 28,261,829 predominantly rural people who are served by 26,156 physicians. Only the northeast and middle states surpass the southeast in population. No other region has as large a percentage of colored people. The ratio of registered physicians to the population in the southeast is 1:1,080 which is the most unfavorable of any of the regions of the United States; this is probably explainable on the basis of economics. The individual state ratios are as follows: Alabama, 1:1,334; Arkansas, 1:1,079; Florida, 1:793; Georgia, 1:1,110; Kentucky, 1:1,040; Louisiana, 1:908; Mississippi, 1:1,432; North Carolina, 1:1,244; South Carolina, 1:1,331; Tennessee, 1:998; and Virginia, 1:917. These figures do not consider those physicians not in private practice which, if done, would make the proportions still more unfavorable.

At one time or another in the history of the southeast, there have been eighty-four medical schools. Currently, there are thirteen approved four-year and three two-year schools. Bowman-Gray (Wake Forest) which recently became a four-year institution and the preclinical schools are not considered in this study because they have no graduates. The approved southeastern four year medical schools are the following: Tulane, Louisiana State, University of Georgia, Emory, Medical College of South Carolina, University of Tennessee, Vanderbilt, Meharry, University of Louisville, University of Virginia, Medical College of Virginia, University of Arkansas and Duke.

The source of all the information used for the study is the American Medical Directory of 1942.[1]

RESULTS

In 1942, there were 28,431 living physicians in the United States who had graduated from the medical schools of the southeast. This represents 15.8 per cent of all the registered physicians in the union. 21,508 (75.6%) obtained degrees from the thirteen currently approved southeastern medical institutions whereas 6,923 (24.4%) were from schools which are now extinct.

Of the 28,431 living graduates of schools in the southeast, 10,814 (38.0%) remained within the state of their alma mater; 7,657 (26.9%) located among the other ten southeastern states, whereas 9,961 (35.1%) emigrated out of the region entirely. The combined migratory value away from the state of graduation was, therefore, 62 per cent when the overall situation is considered.

In taking into account the statistical values for the individual recognized schools, it was found that the absolute number of living graduates were as follows: Tulane, 3,481; University of Louisville, 2,881; University of Tennessee, 2,276; Medical College of Virginia, 2,232; Vanderbilt, 1,923; Emory, 1,570; Meharry, 1,531; University of Virginia, 1,472; University of Arkansas, 1,112; Medical College of South Carolina, 1,102; University of Georgia, 1,013; Louisiana State, 469; and lastly Duke with 446.

Of Tulane's 3,481 graduates, 1,235 (35.5%) were registered within the state of Louisiana; another 1,145 (32.9%) were in the remaining ten southeastern states whereas 1,101 (31.6%) were scattered over extraregional states in the United States. The other Louisiana medical institution, Louisiana State, which had 469, were distributed as follows: 279 (59.5%) were in Louisiana, another 60 (12.8%) were situated elsewhere in the southeast whereas 130 (27.7%) were practicing outside the territory under consideration.

Of the three Tennessee medical schools, the University of Tennessee had the most living graduates, the number being 2,276. Of these, 811 (35.6%) were located within the state; 772 (33.9%) were in other states of the southeast whereas 693 (30.5%) were attracted to localities outside of the region. The 1,923 living graduates of Vanderbilt were divided as follows: 540 (28.1%) were within the boundaries of Tennessee; 625 (32.5%) were in the southeast and 758 (39.4%) were outside the region. Meharry, one of the two medical schools of the country accepting colored students only, had 1,531 living graduates. Only 181 (11.8%) of these were situated within the state of Tennessee; 534 (34.9%) others remained in the southeast, whereas 816 (53.3%) migrated out of the region.

Of the two approved medical schools in Georgia, Emory had 1,570, whereas the University of Georgia had 1,013 living graduates in 1942. Emory had 701 (44.7%) who settled in Georgia, another 580 (36.9%) were in the remaining southeastern territory and finally 289 (18.4%) located outside the region. The same values for the University of Georgia were the following: 587 (58.0%), 281 (27.7%) and 145 (14.3%).

The University of Louisville had a large extraregional migratory factor. Of the 2,881 living graduates, 1,006 (34.9%) remained within the state of Kentucky; another 370 (12.9%) were in the other southeastern states, whereas 1,505 (52.2%) had located outside the region.

In Virginia, the Medical College of Virginia had 2,232 living graduates whereas the University of Virginia had 1,472. Of the former, 955 (42.8%) were registered in the State of Virginia; 445 (19.9%) were elsewhere in the southeast whereas 832 (37.3%) were in extraregional residencies. The University of Virginia had 499 (33.9%) within the state; 307 (20.9%) in the region outside of Virginia and 666 (45.2%) were in other parts of the United States.

Of the 1,112 living graduates of the University of Arkansas School of Medicine, 481 (43.3%) remained within Arkansas; 120 (10.8%) were in other parts of the southeastern region, whereas 511 (45.9%) had migrated out of the area.

A relatively large percentage of the graduates from the Medical College of South Carolina remained within their own state. Of the 1,102 living graduates of the school, 735 (66.7%) had settled in South Carolina; 196 (17.8%) were in other states of the southeast and 171 (15.5%) had migrated out of the region.

Duke, which is a relatively new school, had 446 living graduates in 1942; 137 (30.7%) were located within the state of North Carolina; 82 (18.4%) were in other parts of the southeast, whereas 227 (50.9%) had settled in extraregional territory.

Of the living graduates of the southeast in 1942, 6,923 were from now extinct schools. The number of these graduates from the individual states were as follows: Tennessee, 2,472; Kentucky, 1,800; Georgia, 1,006; Alabama, 647; North Carolina, 429; Virginia, 407; Arkansas, 64; Mississippi, 59; Louisiana, 39; South Carolina, 0; and Florida, 0. Of the 6,923 graduates, 2,667 remained within the state of their alma mater; 2,140 located within the other southeastern states, whereas 2,116 migrated out of the region.

The facts concerning the extraregional migration of the 9,960 southeastern graduates are as follows: to the southwest, 2,900; to the northeast, 2,284; to the middle states, 2,409; to the far west, 707; to the District of Columbia, 666; to the northwest, 436.

There has been an immigration of doctors of medicine to the southeast from medical schools of other regions. In 1942, there were 26,156 registered physicians in the southeastern states. Southeastern medical schools supplied 18,471 (65.0%), 7,725 (35.0%) were graduates from extraregional schools. The great majority of these physicians received their degrees from schools of the following states: Pennsylvania, 1,340; Maryland, 1,267; Illinois, 757; New York, 669; Missouri, 561; Ohio, 526; District of Columbia, 444; Massachusetts, 300; Texas, 206; Michigan, 169; and California, 97.

Since 9,960 graduate physicians of southeastern schools emigrated out of the region, whereas 7,725 immigrated to the district, there is a net loss to the southeast of 2,235 doctors of medicine.

COMMENTS

The southeast is a region that has been extensively studied by sociologists and statisticians. From the standpoint of distribution of physicians, it has one of the most unfavorable ratios of doctors to population of all the regions in the United States. Its population of 28,261,829 was being served by 26,156 registered physicians which gives a ratio of 1:1,080. This means that a territory which has 20 per cent of the population has only 14.5 per cent of the registered doctors in the country. By way of comparison, the proportion of physicians to population in the northeast is 1:599.

The medical schools of the southeast have supplied 28,431, or 15.8 per cent, of the 180,496 registered physicians in the United States. The percentage distribution of these 28,431 doctors of medicine to the six regions of the United States and the District of Columbia are as follows: to the southwest, 10.2 per cent; to the northeast, 10.0 per cent; to the middle group of states, 8.5 per cent; to the far west, 2.5 per cent; to the District of Columbia, 2.3 per cent; to the northwest, 1.5 per cent and to the southeast, 65.0 per cent.

Because of larger annual enrollments, the following schools lead in the absolute number of physicians supplied to the southeast: Tulane, University of Tennessee, Medical College of Virginia, University of Louisville, Emory and Vanderbilt. Relatively, however, the ranking in order would be the following: University of Georgia, Medical College of South Carolina, Emory, Louisiana State, University of Tennessee and Tulane. Meharry, the University of Louisville and Duke had relatively the greatest migration out of the region. It is of interest that the states which had the least relative loss were those situated farthest from the boundaries of the northeastern, middle and southwestern states.

If all the living 28,431 graduates of the southeastern schools were practicing in the southeast, the ratio of doctors to population would be 1:924. If this number, plus the 7,725 who immigrated to the region, were practicing here, the ratio would be 1:721 which would be as favorable as that in the middle states. Such a favorable ratio, however, would not necessarily solve the basic weakness of distribution in the southeast.

The reason that distribution is more unfavorable in the southeast may be explainable on the basis of economics. The income per capita is on the average the lowest of the six regional subdivisions of the United States and a distinct correlation can be made between this situation and the ratio of doctors to the population in each state.

Distribution in the southeast goes deeper than mere number of physicians. If it is kept in mind that this part of the United States is predominantly rural and agricultural, it can be shown that there has been a crowding of doctors to the urban and wealthier centers. Considering it as a whole, the ratio of registered physicians to the population is 1:1,080 without taking into account those not engaged in private practice. In contrast, the average ratio for thirty-five of the largest cities was 1:433 in 1942. For example, Birmingham, Ala., had a ratio

of 1:580; Little Rock, Ark., 1:368; St. Petersburg, Fla., 1:334; Atlanta, Ga., 1:391; New Orleans, La., 1:417; Louisville, Ky., 1:459; Asheville, N. C., 1:370; Columbia, S. C., 1:260; Nashville, Tenn., 1:348; and Richmond, Va., 1:379. The proportions for the thirty-five cities varied from 1:121 to 1:682.

In a more detailed, statistical study which I made in the state of South Carolina, it was shown that the ten largest cities of the state, varying in population from 10,000 to 71,275, had 51.3 per cent of all the doctors. They served only 15.3 per cent of the population. The ratio of doctors to population in these South Carolinian urban centers was 1:395. On the other hand, the rural areas consisting of all those individuals located in communities of less than 2,500 and on farms had 24.2 per cent of all the doctors serving 65.1 per cent of the entire population. The proportion of physicians to population in this latter case was 1:4,082. Of forty-six counties in the state, the four wealthiest had 45.3 per cent of all the registered doctors within the state and one-half of all the general hospital beds. In contrast, the poorest county, with slightly over 10,000 people, with no hospital beds, and little industry, had two physicians giving a ratio of 1:5,000 for the county. To be fair in such an analysis, it must be said that it is possible for the doctors located in urban centers to serve some of the people living in the rural areas because of good transportation facilities.

There are some laymen and especially some legislators who believe that the number of their state medical schools and thus the number of their graduates are very important factors in distribution, but I believe this can be proved to be partly fallacious reasoning. For instance, the one state in the southeast which has no medical school, Florida, has the best regional distribution, namely, 1:793; coinciding with this, it has the greatest income per capita in dollars. In fact, the twelve states in the union which have no medical schools have a better average ratio than do the eleven southeastern states which have eighteen active medical institutions, although two of these as yet do not have any four year graduates to their credit. Conversely, the states of the southeast which have two or three medical schools have no better ratio than those without any or with one. By this analysis, it is not meant to imply that our medical schools are not important to their region. Since they supply 65 per cent of the registered physicians to the southeast, they are vitally significant. The reason that the majority of graduates of the southeastern schools remain within the region may be because the matriculated students are largely natives acquainted with the economic standards of the territory and who, therefore, accept them as normal. Undoubtedly, a fair proportion of the graduating physicians of the extraregional schools immigrating to the region likewise represent natives of the southeast.

Increasing the number of students without accessory measures would not, I believe, circumvent the basic weakness of distribution as it has been in the past. In fact, this step alone might have some dangers in certain states such as overloading with less desirable students, political interference in matters pertaining to medical education and further overcrowding in the urban centers.

The problem of distribution in the southeast lies in locating physicians in the

rural centers. Until this is done satisfactorily, medicine and everything connected with it in the region, will be on the defensive. Subsidization of students (already advocated) would probably produce the fastest results but not necessarily the most lasting. This, in reality, would be a minor form of state medicine aimed at mitigating present defects in distribution. It could easily be the starting point for further reforms including more state control. Another approach, consisting of building hospitals, creating more and better clinical facilities and improving the economic conditions in rural communities, so as to make the environment more attractive to newly graduating physicians, would be a complex matter with the outcome uncertain. There are those who now say that it is easier to change medicine than the economic problems. Educating medical students regarding the true facts concerning distribution, and putting the matter squarely up to them, might help but it would be speculative whether many would decide to perform a missionary type of practice. A combination of these might well be the most suitable procedure. Lastly, there is the program advocated by some, namely, that of federal control of medicine including medical education.

Further statistical work is in progress on the role of medical schools in other regions of the United States.

CONCLUSIONS

1. In 1942, 28,431 or 15.8 per cent, of all the registered physicians in the United States were graduates of the southeastern medical schools. One quarter received their degrees from schools which have become extinct whereas three quarters graduated from the thirteen currently accepted medical schools.

2. Sixty-five per cent of all southeastern graduates remained within the region to practice medicine; 10.2 per cent were in the southwest; 10.0 per cent in the northwest; 8.5 per cent in the middle states; 2.5 per cent in the far west; 2.3 per cent in the District of Columbia; and 1.5 per cent in the northwest.

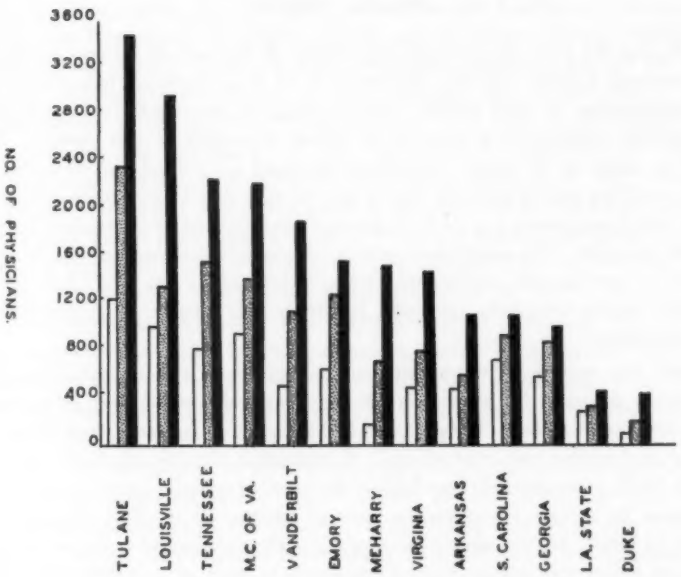
3. Because of larger annual enrollments, the following schools supplied most doctors, in absolute numbers, to the southeastern region; Tulane, University of Louisville, University of Tennessee, Medical College of Virginia and Vanderbilt.

4. In relative numbers, the following schools supplied the most physicians to the southeast: Georgia, South Carolina, Emory, Louisiana State and Tennessee.

5. Of the 26,156 registered physicians located in the southeast in 1942, 70.6 per cent were graduates of southeastern schools, whereas 29.4 per cent were from schools located outside the region.

6. The ratio of doctors to the population in the southeast was 1:1,080 in 1942 which was the most unfavorable regional distribution in the United States.

7. The cities of the southeast were richly provided with physicians in 1942 whereas the rural areas were poorly supplied.



EXPLANATION OF FIGURE

Fig. 1. The state, regional and national distribution of graduates of each of the thirteen four-year, recognised medical schools of the southeast. The white column represents the number of graduates who located in the state in which the school is located. The dotted column indicates the number in the entire southeastern area whereas the black column represents the number in the nation.

BIBLIOGRAPHY

1. American Medical Directory, 17th ed., Press American Medical Association, 1942.
2. Lassek, A. M.: Medical Statistics of South Carolina. I. The National Distribution of Living Graduates of the State Medical School, J. So. Carolina M. A., 39:187-190, 1943.
3. Lassek, A. M.: Medical Statistics of South Carolina. II. The Factors of Urbanisation and County Wealth in the State Distribution of Physicians, J. So. Carolina M. A., 39:228-232, 1943.
4. Lassek, A. M.: Medical Statistics of South Carolina. III. The Evolution of Distribution of State Physicians, J. So. Carolina M. A., 39:265-266, 1943.

Teaching the Public Health Aspects of Syphilis Control

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During the past decade, with the lifting of the veil of secrecy surrounding the venereal diseases and the appropriation of large sums of federal money to aid communities in their syphilis control programs, an attack has been made on the syphilis problem on a scale never before attempted in this country. Especially in many of the larger cities have programs been developed of a character so far reaching and so effective that it may be said that a pattern has been established which may serve as a guide to communities desiring to inaugurate a syphilis control program. The established pattern of control measures has had to be adjusted to meet special community problems created by the war, but its basic features remain essentially the same, requiring only change of emphasis in certain directions.

Into this pattern of community control measures it is necessary to fit the practicing physician, for a considerable proportion of syphilis cases go to private physicians for treatment. For example, in Memphis, where more cases of venereal disease were under treatment per unit of population than in any other American city in 1942, approximately one-half of the cases of syphilis reported were under treatment by private physicians, in spite of adequate free clinic facilities. The extent to which private physicians treating such cases accept a responsibility in terms of aiding community control measures, as well as a direct responsibility toward the patient himself, is therefore, of concern to those responsible for the success of the community syphilis control program.

Many administrators of venereal disease programs have felt that all too frequently the perspective of the physician has been too narrow, that while the physician has felt keenly a responsibility toward the patient in curing his infection, that he has not envisaged an equal responsibility toward the community in terms of ascertaining the source of the patient's infection so that further spread from this focus would not occur, or in terms of taking steps to see that an irresponsible patient with infectious syphilis was not permitted to discontinue treatment and thereby become a source of infection to others. Physicians have been very slow to accept their responsibilities in these latter respects. In fact, some have accused the profession of being more reluctant than even the lay public in giving up out-moded taboos, and viewing syphilis as a medical rather than as a moral problem. While attempts to improve this attitude among physicians already in practice must be continued, it is of even greater importance, and with greater prospects of success, that future physicians be imbued with a broader sense of their responsibilities in this field while they are still in medical school. It is with efforts in this direction which have been carried out at the University of Tennessee College of Medicine that this paper is concerned.

In view of the fact that the teaching program for students has taken advantage of the existing community program for syphilis control, a few introductory remarks will be made regarding the administrative organization of the latter. Participating in the Memphis-Shelby County Syphilis Control Program from an administrative and from a financial standpoint are the Memphis-Shelby County Health Department, the University of Tennessee College of Medicine, the Tennessee Department of Public Health, and the United States Public Health Service. The syphilis control program is directly administered by the director of the Venereal Disease Division of the local health department, and he, in turn, is responsible to the city-county health officer. The head of the Department of Dermatology and Syphilology of the medical school serves in the capacity of clinical director and consultant to the syphilis control program, and is responsible for clinic policies and procedures in all of the clinics of the city-county program. Two members of the Department of Preventive Medicine of the medical school serve as clinicians in the Dermatalogy and Syphilis Outpatient Department of the general hospital, which is the teaching hospital for the University of Tennessee College of Medicine. The above mentioned outpatient clinic is one of the largest clinics in the city-county syphilis control program, and since problem cases of syphilis are referred here for consultations, in addition to the usual run of cases, students working in this clinic have the opportunity to observe a selected as well as a representative group of syphilis cases.

The clinical aspects of syphilis are taught to students in dermatology, medicine and in practically every clinical subject of the curriculum, due to the far reaching implications of this disease. Little will be said about this aspect of the problem as we are concerned here mainly with the public health aspects of this disease. The latter are presented to students mainly by the Department of Preventive Medicine staff in the form of didactic lectures, laboratory exercises, and clinic and field experiences. In the didactic lectures, to which five hours are devoted, the public health and preventive aspects of syphilis receive the main emphasis. The clinical aspects of diagnosis and treatment are considered only as they relate to the above. The following outline indicates the points which receive special emphasis in these lectures:

A. History of syphilis.
B. Etiologic agent; characteristics which make it an agent of venereal disease.
C. Immunology of syphilis; tendency toward infectious relapses.
D. Mode of transmission; nature of infectious lesions, importance of latent infections, examples of epidemic outbreaks, rarity of non-sexual infection.
E. Classification; for statistical purposes and trends.
F. Prevalence; influence of age, race, social, economic factors on prevalence.
G. Problems of control; moral considerations, tendency to latency, long treatment necessary.
H. Methods of control:
    1. Case-finding:
        Routine serologic tests on patients.
        Mass surveys of healthy groups.
        Contact investigation.

Technique of questioning patients for sources of infection.
Field investigation procedures for contacts.

2. Case-holding:
Causes of discontinuing treatment.
Remedies for above, based upon study of causes.
Importance of following up delinquent infectious cases.
3. Public education; dangers of self-medication and quack treatment, dangers of prostitution, prophylaxis.

I. Legal aspects; state and local laws, prostitution, futility of supervising prostitution.

J. Social aspects.

K. Responsibility of the physician in control; reporting of cases, contacts, delinquents.

Recognizing the fact that the field of contact investigation is one to which practicing physicians have given scant attention, a special laboratory exercise has been devised to supplement the lectures on this subject, in order to emphasize the importance and practicability of making contact inquiries a routine procedure for all infectious cases coming to the physician for treatment. This exercise consists of having the student work out and submit in graphic form an epidemic of syphilis, using as a starting point a group of contact records giving the needed information on each regarding the identification of each contact, the stage of disease when examined, the dates of exposure, and other pertinent information. Each epidemic consists of from 10 to 15 cases, and these epidemics represent either actual epidemics reported in the literature, or a grouping together of such reported epidemics so that each epidemic will demonstrate important epidemiologic characteristics.

The object of this study is to make the student think in terms of the source of the patient's infection, as well as the treatment thereof, and to appreciate how the chain of transmission can be severed by the examination of contacts and placing infectious cases under treatment. Due to the fact that syphilis is generally spread by a special type of contact and not by ordinary everyday contact, it offers a unique opportunity for tracing the sources of infection, and if future physicians can be made aware of this opportunity, and accept it as their responsibility in aiding the community control program, a worthwhile objective will be achieved.

In addition to the above laboratory exercises in contact investigation, students also have an opportunity to gain experience in the questioning of patients for contacts in the outpatient syphilis clinic of the teaching hospital. Instruction in the technique of this procedure is given in the lectures in preventive medicine. Newly admitted cases of syphilis are assigned to students for complete study, not only from a clinical but from an epidemiological standpoint as well. Complete privacy is provided for patient and student during the questioning, and a special contact record is provided for recording data regarding sexual contacts. Early cases of syphilis are later requestioned by a representative of the health department in the clinic for further information which the inexperienced student may have been unable to elicit.

The two staff members of the Department of Preventive Medicine who

serve as clinicians in this outpatient clinic attempt to emphasize the importance of contact questioning both by setting the example and by aiding students in difficult cases. It is believed that the experience gained in contact questioning will be of special value to students entering the Medical Corps of the Army, as this procedure is receiving considerable emphasis in the venereal disease control program of the Army, and instruction in this field has been neglected by medical schools in the past.

Another problem encountered in present day syphilis control, and one toward which physicians have been reluctant to acknowledge a responsibility, is the tendency of patients to discontinue treatment while still infectious. It is not necessary to point out that such patients serve as important foci for the spread of the disease, yet rarely does the physician consider it his duty to report such cases to the health authorities so that necessary steps can be taken to return them to treatment. This again reflects the above mentioned tendency of practicing physicians to be more aware of an obligation to the patient than to the community, even in the case of infectious diseases which concern the welfare of the latter.

In order that the student may familiarize himself with this problem and its implications, arrangements have been made for students to make home visits to patients of the teaching hospital clinic who become delinquent in taking treatment. Each student is required to make at least two home visits during the quarter when he is receiving lectures in preventive medicine. Careful instructions, verbal and written, are given the student regarding the approach to the patient, information to be obtained, and instructions to be given to the patient. Emphasis is placed on the importance of ascertaining the cause for the patient's failure to return to treatment, for only by doing so is it possible to take steps to remedy the situation. Clinic records are checked weekly for delinquent patients by a health department clerk, and a field card is prepared for each case, giving information regarding the stage of the disease, amount of treatment received, date of last treatment, etc. These cards are forwarded to the Department of Preventive Medicine and immediately distributed to students for home visiting. As an example of the activities of the students in this field, there are listed below, in decreasing order of frequency, the reasons for delinquency recorded by students as part of the information obtained from patients.

Reactions following treatment.
Other illness not associated with treatment.
Working hours interfered with attending clinic.
Left town temporarily or permanently.
Bad weather.
Lack of carfare.
Went to Army camp for induction examination.
Was inducted into Army.
Forgot about clinic appointment.
Circumstances at home interfered.
Forgot to omit meal before arsenical injection.
Died.
Clerical error; was not actually delinquent.

The reasons for delinquency obtained by students were discussed in conferences, to determine whether the cause of the lapse in treatment was the fault of the patient, of the clinic administration, or was unavoidable. A discussion of measures to overcome these causes followed as a logical sequence. It is of interest to note that more than 80 per cent of delinquent patients visited by students were restored to treatment, if those who failed to return due to death or permanently leaving the county are excluded. This figure compares very favorably with the accomplishment of experienced public health nurses in this locality.

Under the above teaching program, students have an opportunity to observe at first hand and, what is more important, actually participate in activities pertinent to the public health control of syphilis. Furthermore, these activities are not of academic interest alone, to be forgotten on graduation, for they represent participation which is legally required of physicians in most states, such as the reporting to the health authority of cases under treatment, the reporting of delinquent infectious cases, and of the sources of the patient's infection. Furthermore, as stated above, they represent activities which the practicing physician should accept as part of his responsibility in aiding in the community control of this disease, regardless of existing laws pertaining to them. The incorporation of these activities into the venereal disease control program of the Army indicates a recognition of their importance, and in turn demands adequate preparation of students so that they can undertake these activities when they enter the Medical Corps.

It is hoped that as a result of the didactic lectures, laboratory exercises, and clinic and field experiences mentioned above, that the perspective of the student will be broadened with regard to his recognition of and participation in the preventive as well as curative aspects of syphilis control. In probably no other disease is it so important that the physician develop a philosophy of preventive procedure, just as in no other disease will results beneficial to the public health be so readily demonstrable by such participation, as in the case of syphilis.*

* The guidance and cooperation received from Dr. F. L. Roberts, Professor of Preventive Medicine, University of Tennessee College of Medicine, has made the above teaching program possible.

The Use of a Large Clinic to Teach History Writing to the Sophomore Students*

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The important role of a history in diagnosis is well known to all clinicians. The skill of a practicing physician is, to a large degree, due to his ability to collect accurate information. The results of keen inquiry in arriving at a diagnosis are often as spectacular as the results obtained by a skillful trial lawyer when he cross examines a witness. The method of teaching this important subject in medical colleges varies widely. Some institutions have a formal introductory course in history writing while others incorporate the instruction in courses in physical diagnosis.

A study of catalogues of medical colleges in the United States reveals the use of both methods. As examples, in the catalogue of the University of California we find "a course in symptom interpretation is given by lectures and demonstrations. This course aims to translate the knowledge gained in the preclinical divisions in terms of clinical medicine," and from Johns Hopkins University, "Each third of the group (physical diagnosis) receives instruction in obtaining a history of the patient's illness and in the detection of abnormal physical signs."

General statements such as these, do not reveal the difficulties involved in imparting a technique to the young medical student who has little knowledge of disease. A set of responses to a group of routine questions, such as are found in stereotyped forms, will not teach the student the art of writing an adequate history. Although adherence to some form is desirable, each patient presents an individual problem. The description of his sensations must be transferred into words which describe the complaint accurately. The patient's conception of the meaning of words is often inaccurate. Thus, if we analyze the complaint "shortness of breath," we may find that the patient is only sighing. Some who complain of "gas" may mean flatulence while others mean belching, fullness in the epigastrium or substernal pain.

In an effort to improve history writing by the sophomore students at Northwestern University, a change of method has been instituted. With little previous knowledge of clinical medicine or pathology, we have recognized that the student will not be an expert in this subject at the end of his sophomore year. In later years, from repeated practice with patients in the outpatient clinic and hospital wards, the students will learn more and more about the art of assembling data. For many years, a course on history writing has been given in the first

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quarter of the sophomore year. The purpose of the course was to introduce the student to the subject in a series of twelve lectures.

An "Outline of Clinical Examination," a small form, published by the Department of Medicine for use in the outpatient clinic, was presented to the student at the beginning of the lectures. The outline contained material ordinarily found in history outlines, such as detail about statistical data; immediate complaints; present illness; symptom inventories by systems: past illnesses; habits; sexual history; family history; the outline of a physical examination and a neurological examination. In the lectures, the form was explained and methods of eliciting information were discussed. The greater part of the lectures, however, were devoted to studies of the meaning of symptoms. Some instructors used a small part of their allotted time in demonstration of histories which are characteristic of certain diseases. Others required the students to write personal histories of their own illnesses.

In spite of energetic efforts along these lines the student frequently failed to show any aptitude for history writing when he encountered his first patient in the outpatient clinic. Some consideration was given to discontinuing the course or incorporating it into the section work on physical diagnosis. Instead, it was decided to try the following plan: In the first period, the "Outline of Examination" is distributed and the lecture given over to an explanation of the form. The students are advised to familiarize themselves thoroughly with the details of this little book. In the same lecture period, mimeographed copies of two histories of patients with known disease are presented to the students. This is an aid to them as the course progresses because it stands as an example of completed work.

The remaining eleven lecture periods are demonstration clinics, wholly given over to an exhibition of the efforts of the instructors to obtain a history from a patient referred from the diagnostic clinic. The instructor attempts to create an atmosphere or scene like that in his own office or at a hospital bedside. The story of the disease is then developed under expert guidance and by means of an amplifier the conversation is carried to the entire class. As the story develops, the students take notes from which they are required to write a complete, detailed history. They observe the technique of extracting information as practiced by an expert and at the same time they obtain experience in analyzing symptoms, coordinating information, and completing the writeup. In the winter quarter of 1944, the lecture periods were divided among six members of the faculty. This added considerably to the student's interest. Before the method of teaching history writing, herein described, can be evaluated additional experience must be available. On the basis of interest on the part of both student and teacher, and from obvious improvement in the quality of histories written, the continuation of the method seems justified.

A Surgical Elective Course for Senior Medical Students

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An elective course in surgery is offered to a few select students during the fourth year. Selections are made on the basis of a student's previous record and a careful estimate of his interest, energy, intellectual honesty, initiative, originality and potentialities. The course occupies the student's full time for eighteen weeks.

An individual course is mapped out for each student based on free discussions between the student and the head of the department. This policy facilitates adaptation of the course to the specific needs, ability and bent of the student.

Thus far all the students taking the elective course have had the following assignments in common:

SURGICAL ANATOMY.—Dissections are carried out on a cadaver to familiarize the students with the anatomical aspects and problems of such operations as thyroidectomy, pneumonectomy, mastectomy, gastric resection, cholecystectomy, appendectomy, intestinal resection, nephrectomy, prostatectomy, amputations, etc. One hour a week is spent in demonstrations and discussions by an experienced surgeon, followed by two or three hours of independent dissection.

SURGICAL BACTERIOLOGY.—Practice in culturing pathogenic microorganisms from wounds and abscesses. Special emphasis is placed on identification of anaerobic bacteria.

SURGICAL PATHOLOGY.—Two full mornings a week are spent with a competent instructor. Tissues are followed from the operating table to the laboratory where they are studied grossly in frozen section, and later by means of paraffin sections.

ANESTHESIA.—Each student (who has already had lectures on anesthesia during his third year) in turn spends every morning for four weeks giving anesthetics under supervision. During this time the student is introduced to various types of anesthesia and the technics of administration. A weekly seminar is held with the instructor.

STAFF ROUNDS.—When possible, attendance is expected at the hospital staff rounds on Saturday mornings from 10 to 12.

DAILY CLINICS.—When feasible, attendance is expected also at the daily senior student clinics held at the hospital, especially those clinics which are devoted to surgical subjects.

In addition, all A. S. T. P. students now spend four full weeks at Bushnell General (Army) Hospital where they receive special training from the medical and surgical staffs of that institution.

The above assignments occupy approximately one-half of the student's time (excluding the weeks spent at Bushnell Hospital). The remaining time is occupied with original investigation or in assisting some senior staff member with his research problem, preferably the former. The student is encouraged to select his own problem after discussion and reading, but if he is unable to do so, a subject is proposed for him.

For the most part, subjects chosen are in the field of experimental surgery and the investigations are conducted in the surgical laboratory. The schedule is so planned that for the greater part of a semester three full days a week may be spent uninterruptedly at this work. The head of the department assumes a personal responsibility in following these efforts day by day, guiding them as unobtrusively as possible. A thorough survey of the literature on the particular subject is required of the student.

Four goals are kept in view:

1. To introduce the student to the research method and give him a taste of original investigation.

2. To cultivate an appreciation of the experimental and critical basis of modern medical knowledge and progress.

3. To let the student experience the stimulating feeling of being something of an authority on at least one small subject.

4. To improve his surgical technic and operative dexterity by reason of numerous purposeful operations on animals in the course of his investigation. This is an incidental but important benefit.

One purpose of the elective course, as a whole, is to help the interested student decide whether or not he will choose to enter the field of surgery. If his decision should be contrary, time spent in the elective probably will not have been wasted whatever the ultimate field of his work. Should he enter surgery, however, he will have received a useful foundation of special information and experience which is not offered otherwise in the medical course and which is not easily obtained after graduation.

An Aid in Instructing Students in Medical Bibliography

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Medical schools have been rather slow in comparison to our high schools, universities and colleges in introducing formal instruction in the use of books and libraries. Although the need for such courses has been evident for some time, no requirements have as yet been set up by any of the accrediting agencies for medical schools. The nearest to this has been the recommendations of the Committee on Medical Education in the United States,[1] which highly recommended that introductory courses be given, and pointed out that in the 10 highest ranking schools a major obligation of the librarian was to give formal instruction in the use of the library. With no requirements to guide them, the 50 schools out of the 64 reported giving such instruction have varied considerably in their method of presentation. In many cases, only an informal lecture is given to the students by the faculty member or the librarian with no attempt made to organize the work along the lines of an accepted discipline. A few schools, recognizing the value of such courses, have initiated instruction corresponding to the accepted methods of teaching in the other sciences. These schools have had to do a considerable amount of experimentation in order to determine the best methods to be employed in presenting this course, for it was early recognized that procedures utilized in our colleges and universities were not entirely suited to the work in medical schools.

For instance, the importance of a course in medical bibliography was pointed out by the above mentioned Committee since a knowledge of the literature is a significant aid to research, and in the attainment of an insight into the history and present extent of medical writing. Naturally, the first part of the course had to be given with this purpose in mind, to be followed by instruction in the use of medical indexes, reference books, the compiling of bibliographies and other library procedures.

Enough pioneer work has now been done by those interested in this work to have formulated an outline for presenting this course. The first phase includes what may be considered as an introduction to the history of medical literature, while the second includes that phase of the work which may be classed as the use of medical books and libraries.

There has been so much accomplished in this second phase, that is, in the teaching of books and libraries in our colleges and universities, and so much published that it required little pioneer work on the part of those charged with conducting these courses in our medical schools to organize this part of the instruction in a satisfactory manner.

From publications dealing with the first phase of this instruction and from

written comments received by me, it seems as if the greatest discrepancy or understanding lies in the presentation of the history of medical literature to the students. In many cases an exhibit of a few of the medical classics is all that is attempted, while some schools give a more formal course in the development of medical literature.

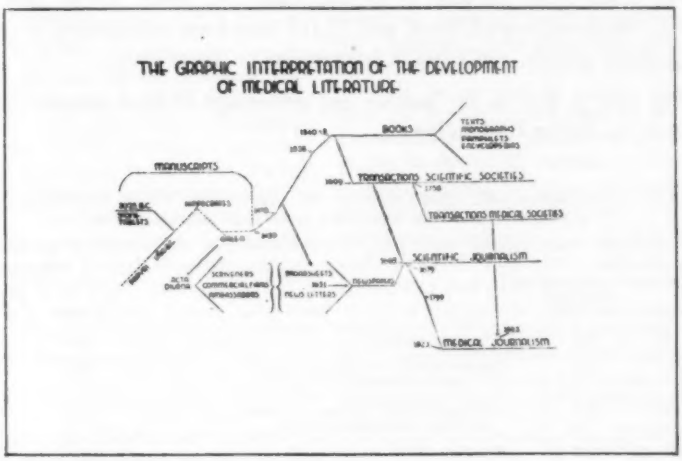
For some years it has been one of the duties of the librarian to conduct the course in medical bibliography in the Louisiana State University School of Medicine. The source of greatest trial has been the problem of just how the development of medical literature should be presented to the students, so that it would prove of interest to them, and not just something they had to take. Although the description of the course as given in our school has already been described,[2] it was felt that recent innovations in conducting the first phase of this instruction have met with such success that it warranted a fuller description. Anyone who has tried to depict the history of medical literature to medical students in the little time allotted to such instruction knows what a difficult task it is. Only too often more harm than good is done. Students acquire such a distaste for medical history that it is never overcome, and the instructor becomes so discouraged that he has little inspiration to continue such work. It would seem as if there were something wrong, for a story as interesting as that of medical literature should prove of interest to the students. Undoubtedly the fault lay in the manner of presentation.

A distinct improvement was noted when our concept of instruction changed. That is, we ceased to attempt to give such instruction as history, but as a story; a story that is very interesting. Emphasis was placed on the principles of medical practice throughout history and the effect it had in the development of various types of literature. With this in mind, a short text[3] was prepared in this fashion. Lectures are developed around four topics: the Manuscript, the Book, the Transaction and the Journal, each corresponding to the chapters in the text. Classics are not only shown to the class, but are arranged in the form of an exhibit. This has tended to arouse a considerable amount of interest.

There is one aid to teaching that is recognized as very efficacious, which undoubtedly could be used to great advantage in presenting this course, that is, by utilizing visual aids more effectively. As mentioned previously, although samples of the medical classics had been exhibited to the classes, there still seemed to be something lacking in the method of presentation to arouse the students' interest. They still failed to acquire an adequate understanding and appreciation of the main events and the principles of medical practice throughout history in its relationship to the development of medical literature.

In order to overcome this difficulty, a chart was drawn up which graphically illustrated the series of events that go to make up the story of medical literature. After some experimentation with charts or diagrams which would tie together the main trends or events in this story, the chart shown herein was drawn up and used as a visual aid in depicting the story of medical literature.

The results obtained in clarifying the trends and principles in the development of medical literature for the students were most gratifying. This chart was mimeographed, and, in addition, was reproduced on a large scale for use in lecturing. In this manner the student had before him a chart which clearly illustrated the logical sequence of events of this most interesting story, and he was able to follow the lectures and his assigned readings with much more understand-



ing and appreciation. The results obtained from one year's use of this chart have been most gratifying, and will undoubtedly prove of material assistance in presenting this course to future classes.

REFERENCES

1. Weiskotten, H. G. et al.: Medical Education in the United States, 1934-1939. Chicago, American Medical Association, 1940. 259 p.
2. Postell, W. D.: The Formal Training of Medical Students in the Use of the Library. J. A. Am. M. Coll. 15:241-244 (July) 1940.

   Postell, W. D.: Further Notes on the Instruction of Medical School Students in Medical Bibliography. Bull. M. Library A. (In press).
3. Postell, W. D.: An Introduction to Medical Bibliography. New Orleans, Louisiana State University, 1943. 98 p.

Report of Twelve Months' Operation of the Distributing Center for Parasitological Specimens

The Division of Parasitology of the Army Medical School, which serves as a distributing center for parasitological specimens, has received approximately 55,000 items from January 1 to December 31, 1943. These have been graded, vialed and reconditioned, and 52,110 have been redistributed to medical and graduate schools, public health laboratories, or the military.

The type as well as the number and percentage of type material received and sent out during 1943 follows:

TABLE 1.—AMOUNTS AND PERCENTAGES OF DIFFERENT ITEMS RECEIVED AND DISTRIBUTED FROM JANUARY 1 TO DECEMBER 31, 1943.

Incoming		Item	Outgoing	
Number	Per Cent of Total		Number	Per Cent of Total
780	1.4	Protozoan cultures	780	1.5
1091	2.0	Entomological specimens (Vials averaging 75 to 100)	1368*	2.6
3329	6.0	Preserved stools (cysts and ova) (Vials averaging 10 cc.)	3155	6.1
39775	72.2	Malaria slides	35696	68.5
10122	18.4	Miscellaneous items (including helminthological specimens)	11111*	21.3
55097	100.0		52110	100.0

* Balance of material supplied by Army Medical School.

These items were received from a number of different agencies. While space does not permit a detailed acknowledgment of the generous cooperation of various agencies, table 2 gives an idea of the groups supplying and using these materials.

TABLE 2.—MATERIALS RECEIVED AND SHIPPED TO VARIOUS AGENCIES FROM JANUARY 1 TO DECEMBER 31, 1943.

Agency	Percentage of Material	
	Received from	Sent to
Medical and Graduate Schools	18.6	78.0
Public Health Laboratories	58.7	6.4
Military Sources	22.7	15.6

Once again it is urged that individuals and groups send in parasitological material which can be spared to The Director, Army Medical School, Army Medical Center, Washington 12, D. C. Attention: Division of Parasitology.

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Postwar Education for Service Personnel

March 20, the Senate, without dissenting vote, passed S. 1767 which provides for any honorably discharged service man or woman with six or more months of service up to one year of education or training in an approved institution of his choice. Additional education or training up to three years is provided in terms of the period of active service of the man or woman. Tuition and educational fees up to $500 a year are provided, plus subsistence allowance of $50 a month while in attendance. The program is administered on the federal level by a director of servicemen's education and training in the Veterans Administration. On the state level, the legally constituted state educational agency or agencies may furnish lists of approved institutions.

The Veterans Administration has asked that medical colleges participate in this educational program. The Association of American Medical Colleges is requested to secure from its member colleges their formal or informal agreement to accept for training and give preferential entrance consideration to Veterans Administration trainees in medicine who are recommended to them by the Veterans Administration and who meet their respective admission requirements. A veteran approved for training is given comprehensive vocational advisement which must meet the approval of a medical consultant who has full access to the veteran's complete medical file. Furthermore, before a veteran can be entered into training for a profession such as medicine, the following must be done: 1. Veteran must meet entrance requirements and be accepted by an accredited school or college of medicine. 2. The accepting training facility must assure the Veterans Administration that the veteran should be able to complete his required course and be eligible to compete for license in the state of his residence and become eligible to internship in not to exceed 48 months of training.

The Veterans Administration will pay for all trainees of the vocational rehabilitation program (1) all instruction and all class, laboratory and other institutional fees provided they are not in excess of charges the institution regularly charges other students taking the same or comparable courses; (2) the use of or rent of all required textbooks, student equipment and other non-expendable student supplies; (3) all required expendable supplies. In addition to the above, the veteran will be granted sufficient increased pension during his period of training to make his minimum monthly income $80, if single, with additional amounts added if he has a wife or other dependents.

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Annual Admissions After October, 1945

The recommendation made by the Executive Council that after October, 1945, medical schools admit students once a year instead of every nine months, was put to a vote of the members of the Association of American Medical Colleges. The recommendation was not mandatory; it merely called for a consideration of the matter. Conditions vary in medical schools. Some must abide by rules and regulations laid down by the parent university, especially in the matter of admitting students. Hence, a medical school may not be in position to vote definitely on this or any other question.

Thus far, 52 schools have voted; one school requested that it be given more time to consider the matter. Forty-six schools voted "yes;" six schools voted "no." Of the 46 schools voting in favor of the recommendation, two schools made reservation as to the month suggested—October. They favored annual admission. One school, Michigan, has continued its annual admission of students but has accelerated its teaching program in line with other medical schools.

This question will come up for discussion at the annual meeting of the Association to be held in Detroit, October 23-25, 1944. It should be remembered that the recommendation of the Executive Council was made to get medical schools to think about this, not to force them to do it, which neither the Executive Council nor the Association can do. It is a matter which every medical school must decide for itself. Furthermore, the course of events as developed by the war may make it undesirable to depart from present procedures by October, 1945. It may be necessary to continue them for a longer time. In any event, it is not amiss to discuss the matter now.

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Medical Colleges Admitting a Second Class in the Fall of 1944

Forty medical colleges will admit a second freshman class in the Fall of 1944.

SEPTEMBER: Louisville, Minnesota, Creighton, Cornell, New York Medical College, Rochester, Duke, Oklahoma, Hahnemann, South Carolina, Vanderbilt, Bowman Gray.

OCTOBER: Colorado, Georgetown, Emory, Georgia, Loyola, Chicago, Iowa, Louisiana, Maryland, Harvard, Tufts, Wayne, Washington, Nebraska, Albany, Long Island, Columbia, New York University, Ohio, Oregon, Jefferson, Temple, Pennsylvania, Pittsburgh, Vermont.

NOVEMBER: Southern California, Kansas.

DECEMBER: Tulane.

The following twelve medical colleges will admit a freshman class in January, 1945:

Arkansas, College of Medical Evangelists, Stanford, Howard, Illinois, Buffalo, Syracuse, Meharry, Baylor, Southwestern, Wisconsin, North Dakota.

Indiana will admit the next freshman class in May; Mississippi and California in June; Dartmouth, Texas, Marquette and Tennessee will admit a class in July; Western Reserve and St. Louis in August.

Tennessee admits students four times during one academic year: July, September, December and March. The school operates on the quarter plan.

Michigan and the Woman's Medical College admit students once a year, the former in October; the latter in September.

Thirty-nine colleges admitted a class in January, 1944, one in February, six in March and nine in April.

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A Challenge to Higher Education

We often seek a remedy by changing the curriculum, by substituting this or that subject for another one and in that way we hope to keep abreast of the times. I have a suspicion that what is wrong is not the matter, but the manner. I greatly doubt whether the men of the last century who studied Latin and Greek were necessarily less well educated than those now studying French and German. A living science may be taught as a collection of facts without in the least affecting the mind of the learner, without giving him the spirit of science, without teaching him broad-mindedness, open-mindedness, fairness, detachment, patience, perseverance. On the other hand, the deadest of languages may be taught as an exciting exploration in the domain of human thought and activities, and as a logical development of the habits and occupation of the people.

The intellectual development of the student should be the criterion of the value of a given curriculum or of teaching success. On one occasion, President Hutchins stated that the Ph.D. degree no longer has a definite meaning. I heartily agree with him. The same may

be said of the Bachelor's degree. It merely means that the student has completed a certain number of credits with certain marks. It would be of great significance if the possession of the Bachelor's degree meant the possession of a modicum of intelligence, intellectual honesty, fair-mindedness and open-mindedness.

A. A. Bless, *J. Higher Education*
May, 1944, p. 240

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Licensure Statistics

In the *Journal of the American Medical Association,* May 13, 1944, are presented the annual statistics on licensure. These statistics are bristling with interesting information which is analyzed well from many angles. The report should be consulted for details. Of particular interest to medical schools is the item of failures of their graduates. It must be kept in mind, however, that numbers, rather than percentages are of significance. If two graduates took an examination and one failed the percentage of failures is startling, 50. And, one graduate may account for all the failures if he took an examination in more than one state and failed in each examination.

For the 6,357 examinations recorded, the percentage of failures is 1.44, which is an extremely gratifying low for the 67 medical schools listed. If there were duplicates these figures would be different both for passes and for failures.

Twenty-nine of the 67 schools did not have any failures. They account for 2,361 examinations, 37 per cent of the total of examinations. Most of the graduates of these schools were examined in the state in which each school is situated—another factor to be considered if conclusions are to be drawn; 9 schools had between 0 and 0.9 per cent failures; 10 schools between 1 and 1.9 per cent; 11 schools between 2 and 4.9 per cent; 7 schools between 5 and 9.9 per cent. Only one school had more than 10.0 per cent failures (10.7%), representing eight examinees. Six of these failed in one state. Sixty-seven graduates of this school passed.

All these figures are gratifying. In preceding years, as many as 28 per cent of failures for one school were reported. The total number of failures is less than what has been reported previously. Are the schools doing a better job of teaching? Has the quality of the students improved? Or are both factors responsible for the improvement?

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The Present Freshman Class

The enrollment blanks received from the medical schools for their present freshmen number 6,495. However, this is not the actual number of freshmen enrolled. Not all medical schools send in blanks for repeaters, probably because such students were reported the previous year. Nor do all medical schools report the repeaters on the supplementary blank provided for that purpose. The reason for this is not known. Therefore, the number of enrollment blanks received at the beginning of the year does not represent the number of students in attendance. Uusually about 100 repeaters are not reported. If that is the case for the present freshman class (some classes began work in 1943; others in 1944), the actual number of freshmen would be about 6,600. Last year (1942-1943), 6,502 freshmen were reported on at the end of the year. The 1940-1941 class numbered 6,160. Acceptance of a larger number of students began in 1941 on the recommendation of the Executive Council of the Association of American Medical Colleges.

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Program for the Detroit Meeting

At the annual meeting of the Association of American Medical Colleges to be held in Detroit, Michigan, October 23-25, 1944, the following topics will be discussed: (1) Postwar Medical Education; (2) Internship for Graduation; (3) Deceleration of the Medical Course; (4) Overdepartmentalization; Integration of the Curriculum; (5) Time of Appointment of Interns; (6) Premedical

Education. The men selected to present these topics are now being contacted. It is hoped that they will accept.

At the executive session, these and other topics, such as annual admissions, etc., will be discussed. The completed program will be published in the September issue of the JOURNAL. A cordial invitation to attend this meeting is extended to all those persons who are interested in medical education. Privilege of discussion will be granted to any one who desires to speak.

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Archie S. Woods

The death of Mr. Archie S. Woods as the result of an automobile accident on April 20th came as a shock to his many friends, especially among medical educators. The far sightedness, the interest of Mr. Woods in medical education made possible bringing into being one of the most outstanding programs in medical education, namely, the development of the teaching of tropical diseases in medical colleges. Mr. Woods convinced his colleagues in the John and Mary R. Markle Foundation, of which he was vice president and treasurer, of the importance to all the people of the United States and Canada of a more thorough knowledge of and familiarity with tropical diseases in order to cope with these ailments when they will be met more frequently after the return of combatants from the Tropics. Members of the faculties of medical schools in the United States and Canada, who had an interest in tropical diseases, were given the opportunity, through a generous grant from the Markle Foundation, to study these diseases at the Army Medical School and the Tulane University of Louisiana School of Medicine and in various places in Central America. That these experiences have proven excellent is evidenced by the reports made by the men who took part in this program.

It always was a pleasure to meet with Mr. Woods, to note his enthusiasm and his thorough personal study of this program, and to enjoy his lovable personality. He will be missed. F. C. Z.

Archie S. Woods

The death of Mr. Archie S. Woods, Vice President and Treasurer of the Markle Foundation, resulting from an automobile accident near San Diego, California, on April 20th, was a tragic loss to American medicine. It is probable that no layman has more endeared himself to the administrators and teachers of medical schools or has contributed more by his individual effort to meeting the medical emergencies created by the war. His enthusiastic interest in stimulating the teaching of tropical medicine cannot be overestimated. Not only did he obtain from his Board of Trustees generous appropriations to the Association of American Medical Colleges, the National Research Council, the American Foundation for Tropical Medicine and individual medical schools, but he also provided a vision and an inspiration to those in civilian institutions and the armed forces who were concerned with this field of medicine. He responded enthusiastically to every reasonable suggestion for financial support. He followed in detail the progress of every project which he started and gave wise advice at many points along the way. He visited frequently the agencies which were conducting projects and was on such a visit when the end came.

Mr. Woods had the rare gift of transforming a great philanthropic foundation into a personal relationship. His interest in individuals as well as projects, his high sense of responsibility and his keen humor created a feeling of affection among all who knew him.

Henry E. Meleney.

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Archie S. Woods
Nov. 1, 1895—April 20, 1944

On April 20, 1944, Archie S. Woods was killed in an automobile accident near San Diego, California. Medicine lost one of its great figures and everyone who knew him lost one of the best of friends. During the ten years he had been Executive Vice-President and Treasurer of the John and Mary R. Markle Foundation, Mr. Woods' keen analytical mind

quickly acquired a firm grasp of the importance of research and of the means by which it could best be accomplished. As an engineer, he thoroughly studied every problem presented to him and invariably found a solution, as illustrated by the following examples of the many others which might be cited: On October 4, 1937, Dr. David T. Smith and I asked him for assistance in establishing a center for the study of mycology. Ten days later, he had read all of the literature on the subject, had sought advice from others working in the field, came to Duke to survey the facilities and personnel, and approved the project. Among the practical results of his help are the publication of the National Research Council Manual on Mycology and the utilization of the Duke fungus material for the American Foundation of Tropical Medicine.

On June 8, 1942, Dr. Lewis H. Weed, Chairman of the Division of Medical Sciences, National Research Council, in accordance with the plan originated by Brig. Gen. James Stevens Simmons, applied to Mr. Woods for a grant in order that visiting lecturers, who had experience in tropical diseases, could augment the teaching resources in the medical schools and add a stimulating touch of first-hand information to the instructional efforts of the schools. In addition to authorities on tropical medicine in this country, invitations also were sent to Latin-American physicians in this field. The plan was endorsed by the Surgeons General, the Subcommittee on Tropical Diseases of the National Research Council, and the Pan American Sanitary Bureau. The interest of the medical schools in the teaching of tropical medicine has been greatly increased by these visiting lecturers as well as by the course of the war.

The next problem, after the medical schools realized the need for more instruction in tropical medicine, was to train instructors so that they could teach this subject to the medical students who would soon be medical officers in the Armed Forces, many of them to be stationed in remote areas where this knowledge would make the difference between life and death. Stanley E. Dorst, Dean of the Cincinnati Medical School, produced the answer by suggesting to Mr. Woods that arrangements be made for instructors in each medical school to attend the courses in tropical medicine at the Army Medical School in Washington and at Tulane University at New Orleans. The Markle Foundation provided the money and Henry E. Meleney and the Association of American Medical Colleges arranged the details. Gen. Simmons then suggested that these instructors be given a month's experience in the tropics of Central America and had orders issued for Mr. Woods, Dr. Meleney, Dr. Francis G. Blake, Brig. Gen. Leon A. Fox, Col. Frank B. Wakeman, and me to accompany him on February 18, 1943, to Panama, the Central America Republics and Mexico to select locations at which these instructors could obtain field experience.

One of the problems of medical schools in connection with the teaching of tropical medicine was the absence of material to show the students. Here again Mr. Woods and the John and Mary R. Markle Foundation came to the rescue. He made possible the publication and dissemination to the medical schools of the medical information gleaned by Gen. Simmons in the Division of Preventive Medicine of the Surgeon General's Office of the Army.

Mr. Woods through the John and Mary R. Markle Foundation also aided the war effort by a revolving fund for the National Research Council, and by assistance to Dr. Harold W. Brown in the study of the treatment of filariasis. He met his death while engaged in seeking further avenues to be helpful in the tropical disease program on the west coast.

Mr. Woods was a graduate and trustee of Lafayette College, and during the last war was a lieutenant in the U. S. Army Air Force in the A. E. F.

All of us who knew Mr. Woods realize the great and unselfish contributions he made to the progress of medicine. His only goal was to see a job well done.

His loss to science as well as to us personally is irreparable. To his wife, son and daughter, the Association of American Medical Colleges expresses its sincerest sympathy.

W. C. Davison.

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William S. Elkin

Dr. Wm. S. Elkin, credited with being the father of medical education in Atlanta, Georgia, died April 24th, aged 85. He graduated from the University of Pennsylvania School of Medicine in 1882. He joined the faculty of the now extinct Southern Medical College in 1884. When the Atlanta College of Physicians and Surgeons and the Atlanta School of Medicine were consolidated in 1931, he became dean of the new institution—the Atlanta Medical College. In 1915, this college became the medical department of Emory University. Dr. Elkin was retained as dean and professor of obstetrics and gynecology. He resigned in 1925. His successor in the deanship is Dr. Russell H. Oppenheimer.

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Repeaters

Year after year, medical colleges are requested to list on a special blank provided them the repeaters enrolled by them. They also are requested to send in an enrollment blank for every new student accepted by them. An examination of both these blanks often reveals that all repeaters are not listed by some colleges. This fact is confirmed by an examination of the enrollment blanks. A very careful check is made of each blank received. If there is a lapse of time between the time of leaving the college and entering the medical college, the many files available in the office of the Association of American Medical College are consulted to determine whether the student has been in medical college previously to the time of the present enrollment. By this procedure, repeaters not reported by the medical college are revealed. If one is found, and the medical college has not reported him as being a repeater, the college is notified of the facts in the case.

It is well known that repeating students do not always make a statement of that fact. They deny having attended a medical college previously—and the college accepts that statement as being truthful. It is one of the many functions of this Association to be helpful to medical colleges in this matter. It would seem wise for every medical college to consult this Association in all such cases and ask for information. The most flagrant violations of the truth have been uncovered. The conscience of these repeating students—and even of their near relatives and friends—seems to be very flexible. They do not seem to regard statements made as to previous efforts in a medical school as being of great significance; in fact, "get away with it if you can" is the motivation. Only the files kept in the office of the Association can show up these students. Therefore, why not make use of them, medical colleges, and save yourselves and students unpleasantness?

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Implications of the Army and Navy Programs for Higher Education

There is considerable evidence that the military atmosphere of our colleges and universities is having a negative effect on the educational enterprise. Many institutions report that less excellent work is being done and that the standards of their ASTP and V-12 students toward their studies is less satisfactory than in days of peace. A number of explanations have been offered. It may be partly a matter of selection, about which something will be said later. It is partly a question of staleness. Most of the students in uniform are now taken directly from high school and put on an accelerated program. To a considerable degree, it is the result of military life and military regimen which by their very nature contain elements which militate against the academic life. In all Army and Navy establishments, the men naturally and universally weary of the constant discipline and atmosphere of discipline;

they seek at every opportunity to get as far away from it as possible. This revulsion against personal discipline is automatically carried over into their attitude toward academic discipline. The work to be done is a part of the new life. It is a necessary evil. Each individual will do as much, and only as much, as is necessary to meet an adequate standard, wherever each may set that standard for himself. Education as the improvement of the mind for its own sake, education as useful training for a job or profession in later civilian life, have largely disappeared. Like drill, inspection, and personal behavior in public places, it is merely another set of requirements for a queer sort of regimented existence.

Nason, John W.: What Have We Learned? *J. Higher Education,* June, 1944, pp. 287-298.

Fifty-fifth Annual Meeting
of the
Association of American Medical Colleges
Detroit, Michigan

October 23, 24 and 25, 1944

Headquarters: Hotel Statler
Host: Wayne University College of Medicine

College News

Western Reserve University School of Medicine

The retirement of Dr. Torald Sollmann as dean, professor and head of the department of pharmacology on June 30 is announced. His successor in the deanship has not been announced. Dr. Arnold D. Welch, research director of Sharp & Dohme, will succeed Dr. Sollmann as professor and head of the department of pharmacology. Dr. Sollmann will continue his research in the field of pharmacology. He obtained the M.D. from Western Reserve in 1896. In 1898 he was appointed lecturer in pharmacology; professor in 1904; dean in 1928. His first appointment at Western Reserve was demonstrator in physiology in 1895.

Dr. Sollmann's work in pharmacology has earned for him the enviable title of "daddy of pharmacology." He has trained many men prominent in this field who have become heads of this department in universities or research directors. His has been a full life with many compensations by way of recognition of his work, his influence on others, his personality and the fact that everywhere, both in this country and abroad, he is recognized as the outstanding authority in pharmacology. He has been the recipient of many well deserved honors.

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Columbia University College of Physicians and Surgeons

Dr. H. Houston Merritt, associate professor of neurology, Harvard Medical School, has resigned to become chief of the division of neuropsychiatry at Montefiore Hospital for Chronic Diseases, New York, and professor of clinical neurology at Columbia University. Dr. Merritt succeeds Dr. S. Philip Goodhart, who is retiring.

The program on tropical medicine now includes a special eight weeks' course offering a full time program in the various aspects of tropical medicine, attended by medical officers of the U. S. Navy as well as graduate students in public health. This phase is under the direction of the DeLamar Institute of Public Health, which is also assisting in expanding the teaching of parasitology and tropical medicine to the medical students. New additions to the faculty of the institute include Kathleen Hussey, Ph.D., and Gertrude Spremulli, Ph.D., both research associates in parasitology. Dr. Harold W. Brown is the first professor of parasitology in the new department of tropical medicine which was recently inaugurated at the school. Courses which recently have been made a part of the regular curriculum are on malariology, helminthology, protozoology, medical entomology, nutrition in relation to the tropics, tropical sanitation and hygiene, epidemiology, public health practice and specific problems of health and disease in the tropics.

Dr. Harry B. Van Dyke, director of the division of pharmacology of the Squibb Institute of Medical Research, New Brunswick, N. J., has been appointed professor and head of the department of pharmacology.

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University of Western Ontario Medical School

Group Captain G. E. Hall, Director of Medical Research for the Royal Canadian Air Force, has been appointed Dean of the Faculty of Medicine, succeeding Dr. F. J. H. Campbell, and Chief of the Department of Medical Research. Prior to the war he was a Research Associate in the Department of Medical Research at the Banting Institute, University of Toronto. He is continuing his post with the Air Force at present and will assume the duties of Dean at a later date.

Dr. George C. Hale has resigned as Professor and Chief of the Department

of Medicine and has been appointed Professor Emeritus in this department. Dr. F. J. H. Campbell, who has been Dean of the Medical School for the past nine years, and Associate Professor of Medicine, has been appointed Professor and Chief of the Department of Medicine. He will continue as Acting Dean of the School until such time as Group Captain Hall is released from the Royal Canadian Air Force.

The John McClary Memorial Fund for Research in Industrial Medicine was established in 1944 through the kindness of Mrs. Catherine Gartshore. The sum of $100,000 was given to the Board of Governors of the University of Western Ontario in trust to constitute a fund, the income of which is to be used for research in industrial medicine.

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Wayne University
College of Medicine

Speakers of national reputation in medicine and science will be brought to Detroit through a lectureship established recently under the auspices of Alpha Omega Alpha. The lectureship was made possible through a contribution by Dr. J. Milton Robb, associate professor of surgery.

The Board of Education accepted the offer of Sister M. Nicholas, superintendent of Mount Carmel Mercy Hospital, to provide $2,000 annually to be used to establish fellowships for young physicians specializing in pathology. It was proposed that students holding these fellowships register in the Wayne University Graduate School and qualify for the master's degree.

The offers of the Faculty Wives of Wayne University and Dr. Clark D. Brooks, member of the Board of Education, to provide funds for scholarships were also accepted. The Faculty Wives fund will provide a sophomore woman student with $123 annually. Dr. Brooks' grant will furnish tuition scholarships to two negro students who have been residents of Detroit for at least two years and who are enrolled in the Wayne University College of Medicine.

Professor Thomas L. Patterson, for 20 years director of the department of physiology and now research professor of physiology, was granted the honorary degree of Doctor of Science by Clark University.

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University of Virginia
Department of Medicine

On May 4th, Dr. Arnoldo Gabladon, Chief of the Division of Malariology of Venezuela and Chairman of the Pan-American Committee on Malaria, spoke before the University of Virginia Medical Society on "Vectors of Malaria in America," and "Antimalarial Organization in Venezuela."

The John Horsley Memorial Prize in Medicine in the amount of $600, founded in 1925 by Dr. J. Shelton Horsley of Richmond, Virginia, as a memorial to his father, Mr. John Horsley of Nelson County, Virginia, was awarded at the time of the annual initiation ceremonies of the University of Virginia Chapter of Sigma Xi, on Thursday, May 11, to Dr. William Bennett Bean of the Department of Internal Medicine of the University of Cincinnati. The prize is open to all graduates of the Department of Medicine of the University of Virginia of not more than fifteen years' standing, and to former interns of St. Elizabeth's Hospital in Richmond, Virginia, under the same conditions. Dr. Bean was graduated from the Medical School of the University of Virginia in 1935. The prize was awarded for a paper on "Secondary Pellagra," by Drs. William Bennett Bean, Tom Douglas Spies, and Marion A. Blankenhorn.

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University of Iowa
College of Medicine

Dr. Warren O. Nelson, professor of anatomy at Wayne University, Detroit, has joined the staff of the department of anatomy at Iowa.

University of Georgia
School of Medicine

The new wing at the University Hospital, Augusta, now under construction, is expected to be finished by July 15. The construction will be two stories high, but arrangements have been made for a possible later addition of two more stories. The construction cost will be about $124,000, with equipment costs to run about $20,000. Half of the total cost will be paid by the Federal Works Agency and the other half by Augusta Revenue Bonds. The building is of reinforced concrete frame, veneered with brick to match old buildings.

May 4 the board of regents adopted a resolution authorizing the School of Medicine to cooperate in providing medical care for the Georgia State Prison in accordance with a recommendation made by the faculty of the school of medicine. The action followed a study of the situation at the prison made by a committee from the medical school. The program means that interested graduates of the medical school would be enabled to serve their internship at the prison. Certain specialists of the faculty of medicine will be available for consultation. It is believed that the plan will provide good clinical material for medical school students.

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University of Illinois
College of Medicine

The Gehrmann Lectures for 1943-1944 were delivered May 17, 18 and 19 by Dr. Harold S. Diehl, dean of the Medical Sciences, University of Minnesota. His subjects were: (1) "The Common Cold: Cause and Epidemiology;" (2) "The Common Cold: Prevention and Treatment;" (3) Some Recent American Epidemics." This lectureship was established in 1923 in memory of Dr. Adolph Gehrmann, who, for many years, was professor of bacteriology and Public Health in the College of Physicians and Surgeons, Chicago, now the College of Medicine of the University of Illinois.

The John and Mary R. Markle Foundation has authorized a grant-in-aid of $5,400 annually, for a two-year period, in support of research on experimental renal hypertension. The research work which was initiated in 1942, under a two-year grant of $7,000 from the Markle Foundation, is being conducted under the direction of Dr. George E. Wakerlin, Professor of Physiology and Head of the Department.

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University of Pennsylvania
School of Medicine

Dr. Stuart Mudd, professor of bacteriology, was awarded the annual William Guggenheim honor cup for his "outstanding services in the field of blood plasma development, with especial reference to the system now used by the armed forces of the United States in all the battle areas."

The late Dr. Charles W. Burr, formerly professor emeritus of mental diseases, bequeathed $200,000 to the endowment fund of the university. He also willed his library to the university, consisting of about 19,000 volumes.

Dr. Edward A. Strecker, professor of psychiatry and chairman of the department, received the Dr. I. P. Strittmatter Award of the Philadelphia County Medical Society "in recognition of his distinguished service in the field of psychiatry and mental hygiene.

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Vanderbilt University
School of Medicine

Dr. Ernest W. Goodpasture, professor of pathology and associate dean, was presented with the Kober Medal during the annual meeting of the Association of American Physicians in Atlantic City, May 9. The award is presented annually to a member of the association for notable contributions to the progress and achievements of preventive medicine. Dr. Goodpasture's work has included experiments using the developed egg as a medium for the growth of viruses and bacteria and research in virus diseases; also he demonstrated the cause of mumps and has done important work in typhoid.

University of Minnesota
Medical School

The University of Minnesota announces the resumption of continuation study programs in medicine at the Center for Continuation Study. First in the series which will cover all branches of medicine is a three-day program in surgery. Dr. Harold Brunn, noted surgeon, will be special guest instructor. Faculty has been selected from members of the teaching staff of the University of Minnesota Medical and Graduate Schools. Subjects will deal mainly with surgical problems of the abdominal and thoracic cavities. The surgical colloquiums which will be held at the University of Minnesota Hospitals will consist of informal conversations concerning patients who will be presented to the group. The registration fee is $3; tuition is $12; total, $15.

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University of Maryland
School of Medicine

Dr. Frederick K. Bell was appointed U. S. Pharmacopoeial Fellow in the Department of Pharmacology for another year. The problem of his research is a chemical assay of digitalis. Dr. John C. Krantz, Jr., professor of pharmacology, has been appointed consultant pharmacologist to the Army Service Forces. Dr. William E. Evans, Jr., assistant professor of pharmacology, was advanced to associate professor.

The Cancer Research Round Table met recently. A day's program in cancer research was provided by the faculty.

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West Virginia University
School of Medicine

Dr. Joseph J. Lawless has been appointed Director of the Student Health Service of West Virginia University. Doctor Lawless formerly served on the faculty of West Virginia University School of Medicine and the University of Texas School of Medicine. He obtained his Ph.D. degree at the University of Minnesota and his M.D. degree at Rush Medical College.

University of Toronto
Faculty of Medicine

Award of Medals, Scholarships and Prizes: Cody Gold Medal, G. L. Snider; Cody Silver Medal, W. T. Clarke and W. J. Horsey; William John Henry Memorial Scholarship in Obstetrics and Gynecology, C. Alter; Chappell Prize in Clinical Surgery, W. J. Horsey; Ontario Medical Association Prize in Hygiene and Preventive Medicine, D. Fraser; David Dunlap Memorial Scholarships, W. T. Clarke (6th year), and H. Kalant (5th year); Roy Simpson Scholarship in Pediatrics, C. T. Collin-Williams.

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Baylor University
College of Medicine

Drs. Marvin L. Graves and Walter H. Moursund, Sr., received the honorary degrees of doctor of science and doctor of laws, respectively, from Baylor University during the first commencement exercises since the college of medicine began operations in Houston. Dr. Graves, who is professor emeritus of internal medicine at the University of Texas Medical Branch, Galveston, addressed the commencement on "Pro Bono Publico." Dr. Moursund is dean of the medical school at Baylor.

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Meharry Medical College

A grant of $4,300,000 has been received from the General Education Board. Of this sum, $4,000,000 is earmarked for endowment, $300,000 is a contingent fund. The income from the endowment fund will replace the annual grant the college has been receiving from the General Education Board. Thus, a satisfactory long time educational program can be developed.

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Southwestern Medical College

Dr. Andres Goth of Vanderbilt has been appointed assistant professor of pharmacology. Dr. Arthur Grollman of Bowman Gray School of Medicine joins the department of medicine.

Northwestern University
Medical School

An oil portrait of Dr. John Gordon Wilson, chairman of the department of otolaryngology, was presented to Dr. James Roscoe Miller, dean, for the medical school on behalf of associates and friends of Dr. Wilson. Dr. John F. Delph, associate professor of otolaryngology at Northwestern, made the presentation. Dr. Wilson has been associated with Northwestern since 1908, when he was named professor and head of the department of otology. In 1920 he was named professor and chairman of the department of otolaryngology.

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New York Medical College

Dr. Conrad E. Tharaldsen (Ph.D.), professor and director of the William Waldo Blackman department of anatomy, died May 20th, aged 60. Dr. Tharaldsen joined the faculty in 1927. He received his B.S. from St. Olaf College, M.S. from Columbia in 1918 and Ph.D. from Columbia in 1925. He was prominent in cytological research in the field of cancer; was the inventor of a micro-vivisection apparatus and other apparatus used in biological research. For the past ten years, Dr. Tharaldsen was preparing an atlas of human anatomy.

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University of Vermont
College of Medicine

Dr. Louis S. Goodman, professor of pharmacology and physiology, delivered the annual Alpha Omega Alpha lecture at the Syracuse University College of Medicine May 17, on "Some Aspects of Recent Advances in Pharmacology."

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Boston University
School of Medicine

"Open house" was held June 3rd. Students were conducted through the buildings, laboratories were prepared for special demonstrations by faculty members representing all subjects in the curriculum. A student committee was in charge of the program.

University of Utah
School of Medicine

Dr. Chas. C. Johnson has resigned as professor of pharmacology. Dr. Leo T. Samuels, of the University of Minnesota, has been appointed professor of biochemistry. Dr. A. Louis Dippel has resigned as professor and head of the department of obstetrics and gynecology. Dr. Emil G. Holmstrom, assistant professor of obstetrics and gynecology, has been named acting head until a successor is chosen.

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Harvard Medical School

Dr. Anatol A. Smorodintsev, head of the department of virus diseases at the Institute of Experimental Medicine in Leningrad, delivered the Cutter Lecture on preventive medicine May 26, on "New Forms of Encephalitis in the U. S. S. R." Dr. Smorodintsev is in America as a guest of the Rockefeller Institute for Medical Research. He has received the Stalin Award for Distinguished Service for his work in encephalitis.

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University of Alabama
School of Medicine

A physicians' advisory board for the new medical college of Alabama to be erected in Birmingham was appointed by Gov. Chauncey Sparks. Members are Drs. Wilbur M. Salter, Anniston, five year term; James S. McLester, Birmingham, four year term; William D. Partlow, Tuscaloosa, two year term, and Harry Lee Jackson, Birmingham, one year term.

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Marquette University
School of Medicine

Dr. J. C. Bock, professor of biochemistry since 1918, will retire July 1 and become professor emeritus. With Dr. Stanley Benedict of Cornell, Dr. Bock developed the Bock-Benedict colorimeter. Dr. Armand J. Quick, associate professor of pharmacology at Marquette for nine years, will succeed Dr. Bock as professor of biochemistry.

Stanford University
School of Medicine

The appointment of Dr. William Walter Greulich as professor of anatomy has been announced by President Donald B. Tresidder. Dr. Greulich has been since 1940 professor of physical anthropology and anatomy and director of the Brush Foundation at Western Reserve University. Dr. Greulich received the Ph. D. degree at Stanford in 1930. He assumes his new duties at the start of summer quarter.

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Long Island
College of Medicine

The Adam M. Miller Memorial Lecture will be delivered May 12 by Dr. Howard T. Karsner, professor of pathology and director of the Institute of Pathology, Western Reserve University. His subject will be "Calcified Aortic Stenosis."

Albany Medical College

Dr. S. Eugene Barrera, principal research psychiatrist, New York State Psychiatric Institute and Hospital, has been appointed professor of neurology and psychiatry at Albany Medical College and psychiatrist in chief and neurologist at Albany Hospital. He succeeds Dr. D. Ewen Cameron, who went to Montreal to become director of the new Allan Memorial Institute of Psychiatry at McGill University.

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University of Tennessee
College of Medicine

Dr. Douglas H. Sprunt, associate professor of pathology, Duke University School of Medicine, has been appointed chief of the division of pathology to succeed Dr. Harry C. Schmeisser, who has held the position since 1921 and who has resigned because of ill health. Dr. Schmeisser will continue as professor of pathology.

General News

Baruch Committee on Physical Medicine

After a scientific exploration of the possibilities of the subject, with special reference to its value in the rehabilitation of the wounded and ill men discharged from the Armies—casualties of the war—Bernard M. Baruch recently gave the sum of $1,100,000 to be used for the teaching of and research in physical medicine. An Administrative Board, under the chairmanship of Dr. Ray Lyman Wilbur, Chancellor of Stanford University, has been established to inaugurate the program.

The following institutions are participating:

1. To Columbia University College of Physicians and Surgeons, $400,000 for the establishment of a key center of research and teaching of physical medicine, with particular reference to its application for returning veterans. This sum is to be expended over a ten year period. This center is to give immediate assistance in maintaining an adequate supply of medical specialists to handle the problems of war and post war physical rehabilitation.

2. To New York University College of Medicine, $250,000 to be spent in ten years in establishing a center for teaching and special research in preventive and manipulative structural mechanics of physical medicine.

3. To the Medical College of Virginia (from which the late Dr. Simon Baruch, father of Mr. Bernard M. Baruch, graduated in 1862) $250,000 to be expended in ten years in establishing a center for teaching and research with particular reference to Hydrology, Climatology and Spa therapy.

4. To selected medical schools, $100,000 to develop an immediate program for the physical rehabilitation of war casualties and those injured in industry.

5. For the establishment of fellowships and residencies, $100,000 to be used for the benefit of qualified physicians or other scientists who are selected to be trained in this field.

Mr. Baruch's interest in the situation had arisen from two causes:

1. Because his father, a distinguished surgeon of the Confederate Army, Dr. Simon Baruch, had been a leader in the field at the College of Physicians and Surgeons, and

2. Because of his desire to do something for the sick, especially the ill and wounded veterans.

In making these gifts, the donor, under the guidance of his committee, asked that each of the centers "Provide itself with an adequate team of workers among whom will be a specialist in clinical physical medicine and appropriately trained and interested laboratory scientists." It is expected that this team will coordinate all work of the centers and gather others in the institution so that an effective group will be developed.

An administrative board has been formed under the chairmanship of Dr. Ray Lyman Wilbur with Dr. Frank H. Krusen as director and the affiliation of Miss Mary A. Boyle, a long time associate of Mr. Baruch. Offices have been established at 597 Madison Avenue, Room 3600, which are in charge of Miss Grace Keefe as executive secretary. A scientific advisory committee and a committee on war and post-war physical rehabilitation are being formed.

Committee on Public Relations—Dr. Wilbur, Dr. Coulter, Dr. Morris Fishbein, Dr. Krusen, L. C. Salter and Herbert Bayard Swope.

Subcommittee on Occupational Therapy—Dr. Kristian G. Hansson, Chairman, New York; Mr. Everett S. Elwood, Philadelphia; Dr. Robert W. Johnson, Jr., Baltimore; Dr. Winfred Overholser, Washington, D. C.

Subcommittee on Prevention—Dr. Kristian G. Hansson, Chairman, New York; Dr. Lloyd T. Brown, Boston; Dr. Frank Ewerhardt, St. Louis; Dr. Royal S. Haynes and Dr. William B. Snow, New York.

Subcommittee on Hydrology and Health Resorts—Dr. Carl R. Comstock, Chairman, Saratoga Springs, N. Y.; Dr. Robert Leo Bennett, Warm Springs, Ga.; Dr. Victor Diederich, Hot Springs National Park, Arkansas.

Subcommittee on Clinical Research—Dr. John Stanley Coulter, Chairman, Chicago; Dr. Frank D. Dickson, Kansas City, Kans.; Dr. George M. Piersol, Philadelphia; Dr. Arthur Watkins, Boston; Miss Catherine Worthingham, Palo Alto, Calif.

Subcommittee on Rehabilitation—Captain Charles F. Behrens (MC), USN, Chairman, Bethesda, Md.; Lt. Col. Benjamin A. Strickland, Jr. (MC) USA, Vice Chairman, Tucson, Arizona; Major Walter E. Barton (MC), USA, Washington, D. C.; Ensign Jane Cassedy and Lt. Commander Harry Etter (MC), USN, Bethesda, Md.; Major Ora Huddleston, A.U.S., Denver, Colo.; Lt. Commander Robert Kinneman (MC), USNR, Great Lakes, Ill.; Captain Howard Montgomery (MC), USN and Lt. Col. Howard A. Rusk (MC), USA, Washington, D. C.

Subcommittee on Basic Research—Dr. William T. Sanger, Chairman, Richmond, Va.; Dr. Detlev W. Bronk, Philadelphia; Dr. Alan Gregg, New York; Dr. Andrew C. Ivy, Chicago; Dr. Eugene Landis, Boston.

Subcommittee on Teaching—Dr. Frank H. Krusen, Chairman, Rochester, Minn.; Dr. Robin Buerki, Philadelphia; Mr. Howard Carter, Chicago; Dr. Frances A. Hellebrandt, Madison, Wis.; Dr. Ernest Jaqua, Washington, D. C.

This committee found that the three primary needs for the proper development of physical medicine were:

1. An adequate supply of physicians who could teach physical medicine.

2. More basic research in physical medicine, including establishment of centers to promote carefully checked scientific research on commonly accepted nonmedical procedures, including those for which claims have been made by practitioners of osteopathy, chiropractic, etc.

3. Proper usage of physical medicine in relation to wartime rehabilitation.

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Winthrop Chemical Company

The Winthrop Chemical Company, Inc., New York, was recently awarded a white star to be added to its E flag, in recognition of continued "meritorious service on the production front." The Winthrop Chemical Company is the country's largest supplier of atabrine.

Medical Books for Laymen

W. W. Norton & Company has established a new literary award to be known as the Norton Award to consist of $3,500 and "offered to encourage the writing of books on medicine and the medical profession for the layman." According to an announcement the publishers, whose list is characterized by some authoritative books on medical subjects, feel that medical men, like other scientific workers, write for one another for the most part, and the layman is consequently too often forced to resort to nonprofessional popularizers. In announcing this award they have in view the need for books on various aspects of medical science, written by professional workers in the medical field in such a way as to interest the general reading public. The subject matter to be considered may be autobiography, biography, history of any phase of medicine, exposition of medical science or of medical theory. Complete information and entry blank for this award may be obtained by addressing the Norton Award, W. W. Norton & Company, Inc., 70 Fifth Avenue, New York 11. Final date for delivery of manuscripts is Dec. 31, 1944.

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Fellowships in Health Education

Fellowships in graduate health education leading to a master of science degree in public health are being offered by the U. S. Public Health Service through funds made available by the W. K. Kellogg Foundation. The training provides twelve months in public health education and includes nine months in academic work in public health and public health education and three months of supervised field experience. They provide a stipend of $100 per month for twelve months, full tuition and travel for field experience. Candidates must pay their travel to and from the university at the beginning and end of training. Fellowships, which will be available for the fall college quarter of 1944, are extended this time only to qualified American women between the ages of 19 and 40. Men cannot be considered because of the de-

mand for manpower for military service. Qualifications should include a bachelor of science degree or its equivalent from a recognized college or university. Additional information may be obtained from the Surgeon General, U. S. Public Health Service, Washington 14, D. C. Applications must be accompanied by transcript of college credits and a small photograph and must be in the office of the surgeon general not later than August 1.

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The Blakiston Company

Doubleday, Doran & Company, Inc., has acquired, through a wholly owned subsidiary company, the assets and business of The Blakiston Company, Philadelphia, as a going concern. Under the name of The Blakiston Company, this firm will continue its present business of publishing medical and scientific books and the performance of existing contracts, substantially as carried on at this time. The Blakiston Company will also engage in a general publishing business under its own name and imprint, publishing both series of books and individual titles, as original publications or as reprints arranged with other publishers. Horace G. White, President of The Blakiston Company, is now associated with Doubleday, Doran & Company, and the entire personnel of The Blakiston Company is being retained. The offices will continue at 1012 Walnut Street, Philadelphia 5, Pennsylvania.

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The John and Mary R. Markle Foundation

The Foundation announces the appointment of Doctor John A. Ferrell as Medical Director to have charge of its professional work. The appointment will become effective July 1, 1944.

The Markle Foundation was established in March 1927. The policy adopted in December 1935, still in force, limits the activities to research in the medical and the physical sciences and the area of operations to the United States and Canada.

As a war measure the scope of the program was broadened to include features of direct importance to the war effort. Among them were researches in emergency problems such as the virus diseases and the tropical diseases. Moreover the training of essential personnel in tropical medicine has been facilitated.

Doctor Ferrell in 1910 joined the staff of the Rockefeller Sanitary Commission and became Assistant Director in 1913. Since 1914 he has served as Associate Director of the International Health Division of the Rockefeller Foundation. His duties have included direction of the health program of the Rockefeller Foundation in the United States, Canada and Mexico. Although his retirement is not scheduled until the end of 1945 the Trustees of the Rockefeller Foundation have granted his leave effective July 1, 1944 when his appointment with the Markle Foundation begins.

The directors of the Markle Foundation in due course, when conditions become favorable, contemplate the formulation of a long-term program of research in the fields of the medical and the physical sciences in charge of a permanent medical director. Toward the attainment of this goal the Directors will have the assistance of Doctor Ferrell.

Mr. Vernon Munroe succeeds the late Archie S. Woods as treasurer of the Foundation.

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Medical School for Connecticut

Serious consideration should be given to adding a medical department to the University of Connecticut, Storrs, Gov. Raymond E. Baldwin stated in his address as principal speaker at the dinner of the recent annual meeting of the Connecticut State Medical Society. He said that the state had the responsibility for the training of physicians to take care of the people of Connecticut and that a school of medicine in the state university should be planned.

Book News

Sternal Puncture:
A Method of Clinical and
Cytological Investigation

By A. Piney, M.D., Physician, St. Mary's Hospital for Women and Children, London, and J. L. Hamilton-Paterson, M.D., Pathologist, Redhill County Hospital, Edgware. With a foreword by the Rt. Hon. Lord Horder, M.D. Ed. 2. Grune & Stratton, New York. 1944. Price, $3.50.

A brief, concise but complete presentation of all that is known about the myelogram made from the blood received by means of a sternal puncture. Beautifully illustrated with original color plates.

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Forsdike's Texabook of Gynaecology

By J. H. Peel, B.M., B.Ch. (Oxon), F.R.C.S., Assistant Obstetric and Gynaecological Surgeon, King's College Hospital and Princess Beatrice's Hospital, etc. Grune & Stratton, New York. 1944. Price, $5.75.

Revised, enlarged, rewritten in part to bring the book up to date. The general arrangement of the book has been changed so that the subject matter is presented in an orderly manner. An appendix of the available hormone preparations has been added and many new illustrations bringing the number to 216. The size of the book is commendable unlike other texts on the subject.

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The Psychology of Women:
A Psychoanalytic Interpretation

By Helene Deutsch, M.D., Associate Psychiatrist, Massachusetts General Hospital. Foreword by Stanley Cobb, M.D., Bullard Professor of Neuropathology, Harvard University. Vol. I. Grune & Stratton, New York. 1944. Price, $4.50.

Explains the normal psychic life of women and their normal conflicts. . . . The psychoanalytic theory of instincts is used to illuminate the biologic background from which the psychologic personality of woman emerges. Case histories are used freely to illustrate.

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The American Illustrated
Medical Dictionary

By W. A. Newman Dorland, M.D., with the collaboration of E. C. L. Miller, M.D. Ed. 20. W. B. Saunders Company, Philadelphia. 1944. Price, $7.50.

All that it is claimed for it. A really complete medical dictionary.

Hackh's Chemical Dictionary

Revised and edited by Julius Grant, Ph.D., F.R.I.C. Ed. 3. The Blakiston Company, Philadelphia. 1944. Price, $12.

Containing the words generally used in chemistry and many of the terms used in the related sciences of physics, astrophysics, mineralogy, pharmacy, agriculture, biology, medicine, engineering, etc. Based on recent chemical literature, with numerous tables, diagrams, portraits and other illustrations. Concise definitions of more than 57,000 terms are given.

The object and scope of the dictionary is: To provide concise definitions based on the latest research findings and current acceptations; to give a precise account of the theories, laws and rules of chemistry; to describe the elements, compounds, drugs, minerals, vegetables and animal products; to list concisely the reaction, processes and methods; to mention the apparatus, instruments, equipment of chemistry; to note the names of investigators who have built up the science.

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Minor Surgery

Edited by Humphrey Rolleston and Alan Moncrieff. Philosophical Library, New York. 1944. Price, $5.

Eighteen writers of renown, residents of Great Britain, contribute to this work which is divided into 18 chapters: Minor wounds, sprains, feet, hand, mouth, nose and throat, ear, eye, bursae and ganglia, benign tumors and cysts, skin infections, rectum, genito-urinary system, hernia-nonoperative treatment, varicose veins, ulcers and phlebitis, gynecology, childhood, anesthesia and analgesia.

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Clinical Urology

By Oswald S. Lowsley, M.D., Director of the Department of Urology of the New York Hospital, and Thomas J. Kirwin, M.D., Attending Surgeon of the Department of Urology, New York Hospital. 2 Vols. Ed. 2. The Williams & Wilkins Company, Baltimore. 1944. Price, $10.

A concise survey of the embryology, anatomy and pathology of the urogenital tract with a manual of operative technic. Drawings made at the operating table illustrate the text. An extensive bibliography appended to each chapter makes possible wide excursion into the literature. A complete guide for the urologist already made or in the making.

One Hundred Years of American Psychiatry

Published for the American Psychiatric Association by Columbia University Press, New York. 1944. Price, $6.

This volume marks the centennial of the American Psychiatric Association. Thirteen contributors present the gradual development of psychiatry into a medical specialty, the evolution of the "insane asylum" into the modern mental hospital, and the transformation of the "insane" individual, who used to be "put away" for safe-keeping, into the patient who undergoes systematic scientific treatment. Each chapter was assigned to a special authority. The history of particular phases of psychiatry is thoroughly examined: mental hospitals, literature, research, therapy, mental hygiene, and military psychiatry. Special attention is paid to legal aspects of psychiatry, the influence of psychiatry on anthropology, psychiatric beginnings in the early colonial days, and a comparison with the European science in the mid-nineteenth century. The specialist in the field, the criminologist, the layman interested in the development of ideas, the historian of American thought and culture—all will find this history enlightening and instructive.

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Medical Diagnosis: Applied Physical Diagnosis

Edited by Roscoe L. Pullen, M.D., Instructor in Medicine, Tulane University of Louisiana, School of Medicine. With a foreword by John H. Musser, M.D., Professor of Medicine, Tulane University. W. B. Saunders Company, Philadelphia. 1944. Price, $10.

Every type of diagnosis and aid in making a diagnosis is discussed fully by contributors who are qualified to describe what they know about the subject in their respective fields of medicine. Therefore, it is an entirely different text from the usual one dealing with diagnosis. It stresses the art of medical diagnosis. Medical diagnosis, with the principles of physical diagnosis, is one of the major subjects in the medical curriculum to be taught and reemphasized until the student becomes proficient in the art.

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The International Bulletin for Medical Research and Public Hygiene: Vol. A44: Poliomyelitis

By Edward C. Rosenow, M.D., Professor of Experimental Bacteriology, University of Minnesota, Mayo Foundation, The International Bulletin, Brussels, London, New York. New York City. 1944.

Discusses the relation of neurotropic streptococci to epidemic and experimental poliomyelitis and poliomyelitis virus, diagnostic serologic tests and serum treatment.

Aesculapius in Latin America

By Aristedes A. Moll, Ph.D., Secretary-Editor of the Pan American Sanitary Bureau. W. B. Saunders Company, Philadelphia. 1944. Price, $7.

A fine narration of medicine and medical practice in Latin America starting with Colonial times, 1492-1808. It is impossible to mention all the topics discussed, but apparently the ground is covered thoroughly and well. This book must be read leisurely so as not to miss anything. It is replete with information on what medicine has meant to Latin America and what phenomenal developments have been made since the discovery of the Western Hemisphere by Columbus in 1492. Appendix A presents a chronology for disease; appendix B, medical and general chronology for Latin America, covering a span of 450 years. This work is a wonderful achievement and cannot fail to establish more firmly the pleasant relationships existing between the two Americas. The author must be complimented on his fine work. It is a valuable addition to the history of medicine in this hemisphere of which too little has been said in previous books on the subject.

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Functional Disorders of the Foot

By Frank D. Dickson, M.D., Associate Professor of Clinical Surgery, University of Kansas School of Medicine, and Rex L. Diveley, M.D., Colonel, M.C., AUS. Ed. 2. J. B. Lippincott Company, Philadelphia. 1944. Price, $5.

This book should cause the medical man to realize that he has failed to evaluate correctly the seriousness of disabling foot conditions as a cause of constitutional upsets. As a result, the treatment of functional foot disorders has fallen largely into nonmedical hands many of whom are inadequately trained. This book discusses foot ailments from the standpoint of the physician. It covers the field thoroughly and in an understandable manner. The functional disorders of the foot in relation to military service and in relation to industry are new chapters. The importance of foot disorders should be stressed in the teaching of medical students. Today, they are not even mentioned. Perhaps, when clinicians as a whole take an interest in the foot and accept the fact that it is as much a part of the human body as is the head, and that its disorders may arise from a constitutional disease, and vice versa, medical students will be told about the neglected foot.

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Virus Diseases in Man, Animal and Plant

By Gustav Seiffert. Philosophical Library, New York. 1944. Price, $5.

A survey of the present stage of virus research.

The Electrocardiogram: Its Interpretation and Clinical Application

By Louis H. Sigler, M.D., Attending Cardiologist and Chief of Cardiac Clinics, Coney Island and Harbor Hospitals. Grune & Stratton, New York. 1944. Price, $7.50.

Each phase of the subject is fully illustrated. Examples of normal types of tracings, and of the common as well as of the rarer forms of abnormal electrocardiograms, have been selected from thousands of records studied by the author in the course of an extensive consultation practice of twenty years. The author's method is simultaneously illustrative and interpretative. Simple, broad elucidation of essential points of theory goes hand in hand with discussion of concrete findings. Separate chapters deal with each of the frequent and the more unusual cardiac arrhythmias, as well as the tachycardias, the bradycardias, and auriculoventricular and bundle branch block. In every case illustrated, the clinical diagnosis and in some instances the autopsy findings are correlated with the electrocardiographic interpretation. An entire chapter is occupied with concise explanation of the elements of physics and electricity relating to electrocardiography. This chapter embraces also the anatomy of the conduction apparatus of the heart, and the principles of electrophysiology applying to the human body. These essential data are visualized by means of striking diagrams devised by the author in the course of his years of teaching of the subject. Other outstanding contributions of the study are a chapter on trauma of the heart, and a special chapter on the six precordial leads. These are subjects thus far not adequately covered in any textbook. A complete analysis of the normal complexes in each of the six precordial leads precedes the description of the findings in each given lead in various disease states. The diagnostic value of each lead is demonstrated, A full chapter is given to the anatomy, physiology, and pathology of the coronary system. Two further chapters describe the electrocardiographic changes in the various forms of coronary insufficiency. The influence of various normal and abnormal bodily states upon the electrocardiogram, and also the effects of certain drugs, chemicals, and other factors are fully detailed. The comparative interpretation of actual tracings demonstrates the importance of electrocardiographic differential diagnosis.

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Intracranial Arterial Aneurysms

By Walter E. Dandy, M.D., Adjunct Professor of Surgery, Johns Hopkins University. Comstock Publishing Company, Inc., Ithaca, N. Y. 1944. Price, $2.50.

Twenty cases, cured, are reported to direct attention to these lesions as being amenable to diagnosis and successful surgical treatment.

Dental Treatment of Maxillo-Facial Injuries

By W. Kelsey Fry, M.R.C.S., Consulting Surgeon, R.A.F.: P. Rae Shepherd, L.D.S., Dental Surgeon; Alan C. McLeod, L.D.S., Dental Surgeon; Gilbert J. Parfitt, L.D.S., Dental Surgeon. J. B. Lippincott Company, Philadelphia. 1944. Price, $6.50.

An excellent book for the dental surgeon; compact; well illustrated; authoritative; based on an extensive and wide clinical experience.

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Medical Education in the United States Before the Civil War

By William F. Norwood, Associate Professor of the History of Medicine and Associate Dean, College of Medical Evangelists. Foreword by Henry E. Sigerist. University of Pennsylvania Press. Philadelphia. 1944. Price, $6.

A survey of the rise and progress of the American system of medical instruction and the institutions of medical learning up to the time of the Civil War. Many relatively unknown institutions are drawn from obscurity. Emphasis is placed on the economic and social aspects of the rise and decline of individual medical schools. It is an important contribution not only to the history of American medicine but, first of all, to the cultural history of the United States. The author has done a splendid job and merits the highest commendation for his work.

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The Analysis and Interpretation of Symptoms

Edited by Cyril M. MacBryde, MD. J. B. Lippincott Company, Philadelphia. 1944. Price, $4.

An analysis and interpretation of some of the commonest symptoms which bring a patient to the physician, such as nervousness and fatigue; fever; headache; chest pain; cough and hemoptysis; abdominal pain, hematemesis, melena; jaundice, joint pain and obesity. Emphasis is placed on the pathologic physiology of the symptom.

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Artificial Pneumothorax in Pulmonary Tuberculosis

By T. N. Rafferty, M.D., Phoenix, Arizona. Introduction by Henry S. Mills, M.D., Northville, Michigan. Grune & Stratton, New York. 1944. Price, $4.

Compares and evaluates existing standpoints and practices in the use of artificial pneumothorax; urges the more widespread use of bronchoscopy and the more general employment of closed intrapleural pneumolysis. The relation to the broader aspects of collapse therapy.

Fundamentals of Psychiatry

By Edward A. Strecker, M.D., Professor of Psychiatry, University of Pennsylvania School of Medicine. Ed. 2. J. B. Lippincott Company, Philadelphia. 1944. Price, $3.

"A blueprint of the human mind and emotions in their abnormal aspects." The physical causes of mental states are examined and, in turn, their repercussions on the body. The causes of all the common psychoses are explored and methods of treatment given. There is a timely chapter on psychiatry and the war and the special problems created both in military establishments and in civilian life.

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Textbook of Gynecology

By Emil Novak, M.D., Associate in Gynecology, Johns Hopkins Medical School. Ed. 2. The Williams & Wilkins Company, Baltimore. 1944. Price, $8.

A well balanced student textbook by an experienced teacher; well revised; many new illustrations; up to date.

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Practical Malaria Control

By Carl E. M. Gunther, M.D. Philosophical Library, New York. 1944. Price, $2.50.

Based on first hand experience as medical officer of a large industry in New Guinea. A valuable book.

Principles and Practice of Inhalation Therapy

By Alvan L. Barach, M.D., Associate Professor of Clinical Medicine, Columbia University, College of Physicians and Surgeons. J. B. Lippincott Company, Philadelphia. 1944. Price, $4.

The methods of inhalation therapy are presented in considerable detail in order to afford the physician in charge the opportunity of making an intelligent selection of apparatus and to understand the most efficient method of using it, as well as to provide those actually engaged in carrying out the various technics of industrial therapy with a practical guide to the operation of the equipment.

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Principles and Practice of Ophthalmic Surgery

By Edmund B. Spaeth, M.D., Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania. Ed. 3. Lea & Febiger, Philadelphia. 1944. Price, $11.

Revised and brought up to date. Most extensive and exhaustive; complete coverage of surgery of the eye; considers ophthalmology as a branch of internal medicine with a definite surgical aspect.

BACTERIAL INFECTION

By J. L. T. APPLETON, D.D.S., SC.D. Professor of Bacteriopathology and Dean, The Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania.

New third edition. Octavo, 498 pages, illustrated with 86 engravings and 5 plates. Cloth, $7.00.

Part I of this work is designed to acquaint the reader with a minimum of information upon the morphology, physiology and ecology of bacteria. Part II treats the subject of infection as an entity, while Part III presents a summary and an analysis of what is known about the common infections associated with the oral cavity.

THE PRINCIPLES AND PRACTICE OF OPHTHALMIC SURGERY

By EDMUND B. SPAETH, M.D. Professor of Ophthalmology in the Graduate School of Medicine of the University of Pennsylvania, Philadelphia, Pa., etc.

New third edition. Octavo, 934 pages, illustrated with 556 engravings, containing 798 figures and 6 colored plates. Cloth, $11.00.

The third edition of this successful work represents a thorough revision of the text and the addition of much new material in both text and illustrations. These additions bring the contents fully up to date. It is probably the most extensive and exhaustive work in this field that is available.

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